

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 1678.—Vol. XXXVII.

LONDON, SATURDAY, OCTOBER 19, 1867.

{STAMPED...SIXPENCE
{UNSTAMPED...FIVEPENCE

R. JAMES CROFTS, STOCK AND SHAREBROKER,
No. 1, FINCH LANE, CORNHILL.
(Established 24 years.)

Miners of mining shares difficult to find in the open market may find purchase for the same through Mr. CROFTS' agency. Also parties requiring advice to act in the disposal or abandonment of doubtful mining stocks may rely on Mr. CROFTS' long experience on the market in all cases of difficulty, legal or otherwise.

Standard for copper ore having again advanced this week, and being in view of further advances, is important for shares in copper mines, of which stage should be taken by capitalists to invest at low prices without delay.

Mr. CROFTS furnishes a select list of current shares, either for investment or speculation.

There are also symptoms of a general improvement in the tone of the Mining market this week, and a stronger impetus may be given to prices much sooner than generally anticipated.

Bankers: National Bank of Scotland, Finch-lane.

R. JOHN BUMPUS (Successor to WILLIAM LANE),
44, THREADNEEDLE STREET, has FOR SALE:—

1000 Great Laxey, 13s 9d. 20 Gt. No. Laxey, 13s 9d. 30 Prince of Wales, 53s. 1000 Great Laxey, 13s 9d. 15 Gt. No. Laxey, 13s 9d. 30 Providence, 42s. 1000 Great Laxey, 13s 9d. 30 Gt. No. Laxey, 13s 9d. 40 Pestalozza, 42 1/2s. 6d. 1000 Great Laxey, 13s 9d. 10 Gt. No. Laxey, 13s 9d. 50 Rossa Grande, 12s. 3d. 1000 Great Laxey, 13s 9d. 5 Great Wh. Vor, 12 1/2s. 3d. 30 So. Condurrow, 13s. 1000 Great Laxey, 13s 9d. 20 Marke Valley, 42 1/2s. 3d. 50 St. John del Rey, 42s. 1000 Great Laxey, 13s 9d. 25 North Downs, 13s. 50 W. Greenville, 33s. 1000 Great Laxey, 13s 9d. 15 North Croft, 42 1/2s. 3d. 100 Worthing, 11s. 3d. 1000 Great Laxey, 13s 9d. 20 No. Treskerby, 33s 9d. 50 West Kitty, 3s. 6d. 1000 Great Laxey, 13s 9d. 20 New Quebrada, 20s. 50 W. Drake Walls, 6s 3d. 1000 Great Laxey, 13s 9d. 70 Port Phillip, 23s.

WIDE TO INVESTORS.—MR. LELEAN'S STOCK, SHARE,
AND FINANCE REGISTER for October, contains a comprehensive list of the Stock and Share Markets; a list of all the dividends paid in August and September; a selection of investments paying 10 to 15 per cent.; and such other information as is necessary to guide intending investors. 6d. per copy, or 5s. annually, post free.

Published by Mr. BAKER LELEAN, at his offices, 11, Royal Exchange, London.

R. WILLIAM WARD,
STOCK AND SHAREDEALER,
No. 29, THREADNEEDLE STREET, LONDON, E.C.

R. JOHN BATTERS, STOCK AND MINING
SHAREBROKER, 13, THROGMORTON STREET, LONDON, E.C.

R. WILLIAM SEWARD, STOCK AND SHAREDEALER,
19, THROGMORTON STREET, LONDON, E.C.

ESSRS. WARD AND JACKMAN,
STOCK AND SHAREDEALERS,
CUSHION COURT, OLD BROAD STREET, CITY, E.C.

Every description of marketable SHARES BOUGHT or SOLD, either for immediate settlement or account, at the closest dealing prices.

Bankers: London and Westminster, Lothbury.

R. THOMAS THOMPSON, MINING OFFICES,
12, OLD JEWRY CHAMBERS, LONDON, E.C.

R. G. D. SANDY, STOCK AND SHAREDEALER,
No. 48, THREADNEEDLE STREET, LONDON, E.C. TRANSACTIONS IN EVERY DESCRIPTION OF STOCK EXCHANGE SECURITIES, RAILWAY AND FINANCIAL ENTERPRISES, at close market prices.

MARK VALLEY SILVER-LEAD.—The report from this mine is of a most satisfactory character. G. D. SANDY is in possession of private and reliable information, which justifies him in fearlessly recommending the shares.

Correct Daily Price List may be had on application.

Money advanced to any amount on legitimate stocks and shares.

References exchanged.

GEORGE RICE, STOCK AND SHAREDEALER, 78, OLD
BROAD STREET, LONDON, E.C. (Member of the Mining Exchange).

Years' experience. TRANSACTIONS BUSINESS IN MINING SHARES, at prices OFFERS WANTED FOR:—

1000 Great Laxey, 13s 9d. 20 Gt. No. Laxey, 13s 9d. 30 Prince of Wales, 53s. 1000 Great Laxey, 13s 9d. 15 Gt. No. Laxey, 13s 9d. 30 Providence, 42s. 1000 Great Laxey, 13s 9d. 30 Gt. No. Laxey, 13s 9d. 40 Pestalozza, 42 1/2s. 6d. 1000 Great Laxey, 13s 9d. 10 Gt. No. Laxey, 13s 9d. 50 Rossa Grande, 12s. 3d. 1000 Great Laxey, 13s 9d. 5 Great Wh. Vor, 12 1/2s. 3d. 30 So. Condurrow, 13s. 1000 Great Laxey, 13s 9d. 20 Marke Valley, 42 1/2s. 3d. 50 St. John del Rey, 42s. 1000 Great Laxey, 13s 9d. 25 North Downs, 13s. 50 W. Greenville, 33s. 1000 Great Laxey, 13s 9d. 15 North Croft, 42 1/2s. 3d. 100 Worthing, 11s. 3d. 1000 Great Laxey, 13s 9d. 20 No. Treskerby, 33s 9d. 50 West Kitty, 3s. 6d. 1000 Great Laxey, 13s 9d. 20 New Quebrada, 20s. 50 W. Drake Walls, 6s 3d. 1000 Great Laxey, 13s 9d. 70 Port Phillip, 23s.

18, 1867. Money advanced on mining shares.

Bankers: Bank of England.

R. EDWARD BREWIS, PALMERSTON BUILDINGS,
34, OLD BROAD STREET, LONDON, E.C., has BUSINESS at net in all SHARES dealt in on the market.

Bankers: National Bank, London, E.C.

HN RISLEY, STOCK AND SHAREBROKER
(SWORN BROKER),
48, THREADNEEDLE STREET, LONDON, E.C.

Bankers: London and Westminster, Lothbury.

R. T. ROSEWARNE, 81, OLD BROAD STREET,
LONDON, has BUSINESS in the following shares for cash or time on:—

Frontino. North Treskerby. Gawton. Prince of Wales. Great North Downs. South Grenville. Great South Chiverton. West Seton. Great Retallack. West Seton. Marke Valley. Wheal Agar. North Croft.

OF WALES.—From my report this morning, there is nothing new at the mine. They are driving by the side of the lode in the 55 east, and the stopes of the cross-course are worth 250 per fathom. I am of opinion, when they drive a few fathoms west of the cross-course, they will have a good lode, as the case in the level above. No north lode cut yet, but the water is flowing from the end.

ROSEWARNE is a BUYER of any part of 1000 East Carn Brea, 1000 Prince of Wales, 1000 Chiverton Moor, 1000 North Downs, 200 Bedford United, 700 Wheal Hill, 200 East Grenville, and 500 North Treskerby.

SPECIAL BUSINESS in the shares marked thus *.

Money advanced on good mining shares. Office hours from 10 to 4.

Bankers: Bank of England.

R. WILLIAM MARLBOROUGH, 1, GREAT ST. HELEN'S,
BISHOPSGATE STREET, LONDON, E.C. (Established 13 years), has FOR SALE the FOLLOWING SHARES, at net prices:—

1000 Great Laxey, 13s 9d. 20 Gt. No. Laxey, 13s 9d. 30 Prince of Wales, 53s. 1000 Great Laxey, 13s 9d. 15 Gt. No. Laxey, 13s 9d. 30 Providence, 42s. 1000 Great Laxey, 13s 9d. 30 Gt. No. Laxey, 13s 9d. 40 Pestalozza, 42 1/2s. 6d. 1000 Great Laxey, 13s 9d. 10 Gt. No. Laxey, 13s 9d. 50 Rossa Grande, 12s. 3d. 1000 Great Laxey, 13s 9d. 5 Great Wh. Vor, 12 1/2s. 3d. 30 So. Condurrow, 13s. 1000 Great Laxey, 13s 9d. 20 Marke Valley, 42 1/2s. 3d. 50 St. John del Rey, 42s. 1000 Great Laxey, 13s 9d. 25 North Downs, 13s. 50 W. Greenville, 33s. 1000 Great Laxey, 13s 9d. 15 North Croft, 42 1/2s. 3d. 100 Worthing, 11s. 3d. 1000 Great Laxey, 13s 9d. 20 No. Treskerby, 33s 9d. 50 West Kitty, 3s. 6d. 1000 Great Laxey, 13s 9d. 20 New Quebrada, 20s. 50 W. Drake Walls, 6s 3d. 1000 Great Laxey, 13s 9d. 70 Port Phillip, 23s.

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PETER WATSON'S "WEEKLY MINING CIRCULAR AND
SHARE LIST—SYNOPSIS OF CORNISH AND DEVON MINES," of

Friday, Oct. 18, No. 446, Vol. IX., price 6d. each copy, forwarded on application, contains information on the following mines:—

Wheal Jane. Great South Tolgus. Botallack. No. Wheal Chiverton. Caradon Consols. Great Laxey. West Chiverton. North Downs. Devon Great Consols. North Treskerby. West Great Work. East Wheal Basset. Wheal Agar. East Wheal Lovell. Stray Park. West Wheal Kitty. North Wheal Croft. Great Wheal Vor. Wheal Kitty. East Trumpet. Dolcoath. West Wheal Seton. Prosper United. Chontales Gold. Wheal Seton. East Carn Brea. Frontino and Bolivia. Don Pedro.

With a Leading Article on Mining and its Prospects; Advance in the Copper Standard, &c.

PETER WATSON, Stock and Sharedealer, 79, Old Broad-street, London, E.C.

STOCK EXCHANGE SECURITIES.—THE LONDON DAILY
RECORD, STOCK AND SHARE LIST (entered at Stationers' Hall).

Annual subscription, £1 1s.; by post, £2 5s.; monthly subscription, by post, 4s.; single copy, 1d.—by post, 2d. Published by PETER WATSON, Stock and Sharedealer, 79, Old Broad-street, London, E.C.

This Stock and Share List is published every evening at 5 o'clock, and contains the latest prices of railways, banks, colonial government securities, Cornish and Devon mines, gold mines, insurance, foreign railways, and miscellaneous shares; comments made on the daily operations in stocks and shares, showing the rise and fall in prices. Forwarded by same night's post to subscribers (to regular customers free). Shareholders or investors about to operate in stocks or shares can be furnished with the list on application.

N.B.—The present is a most favourable opportunity for the investment of capital in several foreign stocks, railways, mines, banks, &c., which, on the present market price, are paying in interest or dividends at the rate of 5 to 15 per cent. per annum.

THE LONDON DAILY RECORD—STOCK AND SHARE
LIST—STOCK EXCHANGE SECURITIES. Published every evening at 5 o'clock. It contains the latest prices of railways, banks, mines, foreign stocks and bonds, financial, insurance, and miscellaneous shares, remarks on the daily rise and fall in prices, with advice as to purchase and sales. Annual subscription, £1 1s.; by post, £2 5s.; monthly subscription—by post, 4s.; single copy, 1d.; by post, 2d.

PETER WATSON, Stock and Sharedealer, 79, Old Broad-street, London, E.C.

INVESTMENT OR SPECULATION.—A SELECTED LIST OF
RAILWAYS, BANKS, MINES, COLONIAL SECURITIES, FOREIGN

GOVERNMENT BONDS, &c., forwarded to bona fide investors on application. In addition to the high rate of interest many of the above are paying, there is now every probability of a great rise in market value.

PETER WATSON, STOCK AND SHAREDEALER,
79, OLD BROAD STREET, LONDON

(three doors only from Hercules-passage, entrance to the Stock Exchange).

Twenty-three years' experience.
(Two in Cornwall and Twenty-one in London.)

Bankers: The Alliance Bank, and the Union Bank of London.

References given and required (when necessary) in all the principal towns of the United Kingdom.

MR. EDWARD COOKE, STOCK AND SHAREDEALER,
76, OLD BROAD STREET, LONDON, E.C.

EDWARD COOKE having returned from visiting the mining districts of Cornwall will feel much pleasure in affording information on the mines in the Chiverton, Great Wheal Vor, and Helston districts, which latter includes East Wheal Lovell, and the Cornish Consols, and other mines.

Orders for all kinds of Stock Exchange securities, either by letter or telegraph, promptly attended to.

N.B.—A Daily Price List on application.

Satisfactory references given in any town in the United Kingdom.

Bankers: Alliance Bank.

MR. W. H. CUEL,
(late of the firm of WATSON and CUEL),
STOCK AND SHAREDEALER,
1, FINCH LANE, CORNHILL.

References exchanged.

All transactions can be for cash or account.

Bankers: Bank of England.

MR. JAMES HUME, 74, OLD BROAD STREET,
MEMBER OF THE MINING EXCHANGE, LONDON.

TRANSACTIONS BUSINESS in all description of railway stocks, mine shares, and miscellaneous securities, at net prices, and at margins of 1 1/4 per cent. on mine shares, and 3/4 per cent. on railways.

MR. HUME having returned from Cornwall is enabled to give valuable information respecting several mines likely to have a great rise in value, and will forward a selected list of shares on application.

Bankers: The London Joint-Stock Bank.

BARTLETT AND CHAPMAN, STOCK AND
SHAREDEALERS, 2, BUCKLESBURY, LONDON, E.C.

BARTLETT AND CHAPMAN'S "Investment Circular and Financial Record" for this month is now ready, and should be consulted by all who wish to make safe and profitable investments.

Bankers: London and Westminster Bank.

WALTER TREGELLAS, 122, BISHOPSGATE STREET
WITHIN, E.C., DEALS IN ALL DIVIDEND AND SOUND PROGRESSIVE

SIX MINE SHARES, either for cash or the fortnightly settlement at close market prices.

Has BUSINESS in St. John del Rey, Don Pedro, Anglo-Brazilian, Frontino, Rossa Grande, Chontales, Port Phillip, and Pestalozza.

WALTER TREGELLAS can confidently recommend the Taguarril Gold Mine. Full and reliable information on application.

Bankers: Alliance Bank.

MR. JAMES STOCKER,
PALMERSTON BUILDINGS, OLD BROAD STREET, and MINING
EXCHANGE, LONDON, E.C., STOCK AND SHAREDEALER.

Mines, British and Foreign. Colonial Securities, Railway, Bank, Miscellaneous, and every description of shares BOUGHT and SOLD at the closest dealing prices for cash or account.

Bankers: London and Westminster.

MR. J. B. REYNOLDS, STOCK AND SHAREDEALER,
79 and 71, BISHOPSGATE STREET WITHIN, LONDON, E.C.

MR. REYNOLDS has SPECIAL BUSINESS in the undermentioned mines:—

East Lovell. Gt. Laxey. Great Wheal Vor. North Retallack. Rose and Chiverton. Cuddra. Great South Chiverton. Dale. West Seton. West Prince of Wales. Prince of Wales.

Established Ten Years. Member of the Mining Exchange.

Bankers: City Bank.

MATTHEW GREENE, STOCK AND SHAREDEALER,
ST. MICHAEL'S HOUSE, CORNHILL, LONDON, E.C.

MATTHEW GREENE recommends for immediate purchase Tamar Valley Silver-Lead shares, now selling for a few shillings per share, and certain for a rise to as many pounds in a few fathoms sinking. Parties desirous of investing in this most promising lead mine should apply at once. Plans, specimens of the lode, and every particular can be had at M. G.'s office.

M. G. confidently asserts that no such chance is at present to be had as the shares in this mine.

MR. GREENE is most desirous that all parties meditating taking shares should first either see for themselves, or send a competent mining agent, to whom on application M. G. will be happy to give an order to inspect the property.

The agent of this mine writes that a more healthy and promising lode for producing large quantities of rich ore cannot be seen.

INVESTMENT, LOAN, AND BANK AGENCY.
Established 1839.

Investments and Sales of every description of Public Securities can be effected, either for immediate or deferred settlement, as may be agreed upon.

Loans granted, for one year or any shorter period, on Stocks and Shares having a market value.

Deposits of all amounts received at 5 per cent.

Bank and Money Agency Business generally undertaken.

RICHARD TAYLOR AND COMPANY.
No. 12, Clement's-lane, Lombard-street, London, E.C.

M. R. CHARLES THOMAS,
MINING AGENT, GENERAL SHAREDEALER, AND AUCTIONEER,
3, GREAT ST. HELEN'S, LONDON, E.C.

In the Press,
MINING FIELDS OF THE WEST: a PRACTICAL
EXPOSITION OF THE PRINCIPAL MINES AND MINING DISTRICTS

of CORNWALL AND DEVON.
Published by CHARLES THOMAS, at 3, Great St. Helen's, London, E.C.

One Shilling. Post-free, fourteen stamps.

MESSRS. LANE AND GIBBS, 2, ROYAL EXCHANGE,
LONDON, E.C. (Members of the Mining Exchange), STOCK AND

SHAREDEALERS, transact business in all kind of securities at closest net prices for cash or account.

MARK VALLEY shares have advanced 10s. this week, and are now 48s. 6d. This is but a slight rise, in consequence of an advance in the standard for copper ore. It is important, and should be known, that a new lease for 21 years, at 1-18th dues, has just been secured to the company, and allowed in last quarter's accounts, still carrying over a cash balance of £2076.

BUYERS of East Caradon, West Rose Down, North Phoenix, and Great North Downs Shares.

Daily price list on application.

Bankers: London and County Bank.

SAFE INVESTMENTS,
paying 5 to 20 per cent. per annum on outlay.

SHAREHOLDERS, CAPITALISTS, AND INVESTORS requiring valuable and reliable information, and seeking safe, sound, and profitable investments, paying good dividends, should at all times consult

SHARPS' INVESTMENT CIRCULAR
Post free. It is a safe guide for executors, trustees, and others.

GRANVILLE SHARP, STOCK AND SHAREDEALER,
32, POULTRY, LONDON, E.C.

Established 1852.

SAFE INVESTMENTS,
paying 5 to 17 1/2 per cent. per annum.

The following mines have all been bought into their present profitable state under the "Cost-Book System." Shares were some years ago to be bought from a few shillings each.

The following shares are all sound, safe, and good paying investments. No class of investments pay such large dividends, or are so profitable, as judiciously selected Devon and Cornish copper, tin, and lead mines. Shares can always be bought to pay from 10 to 20 per cent. upon the outlay, in good sound safe dividend mines. The following are perfectly safe investments:—

No. of Name of mine. Amount paid per share. Present price per share. Dividends payable. Paying price per share.

3000 West Chiverton... £10 0.. £65 0.. 8 0.. Quarterly... £12 1/2 p. cent. 15000 Great Laxey... 4 0.. 18 10.. 2 0.. Quarterly... 10 1/2 " 300 Wheal Seton... 58 10.. 110 0.. 18 0.. Bi-monthly... 16 1/2 " 400 West Wh. Seton... 47 10.. 100 0.. 24 0.. Bi-monthly... 15 " 5908 Great Wheal Vor... 40 0.. 18 0.. 1 10.. Quarterly... 8 1/2 " 1004 Herodfoot... 8 10.. 37 0.. 4 10.. Four-monthly... 12 1/2 " 1120 Providence... 10 0.. 30 0.. 2 0.. Quarterly... 6 1/2 " 512 South Caradon... 1 5.. 400 0.. 36 0.. Bi-monthly... 9 " 1024 Devon Gt. Con... 1 0.. 415 0.. 42 0.. Bi-monthly... 10 1/2 " 1024 Wh. Mary Ann... 8 0.. 17 10.. 3 0.. Quarterly... 17 1/2 " 9000 Marke Valley... 4 10.. 8 10.. 0 16.. Quarterly... 12 1/2 " 572 Wheal Basset Vor... 5 2.. 12 0.. 1 10.. Bi-monthly... 14 " P.S.—Many of the above have advanced considerably in price during the past four months, owing to the rise in copper and tin. The present time offers most favourable opportunities for making investments in several good sound Devon and Cornish mining properties, both dividend and progressive. The metal markets will, no doubt, go better, shares must, therefore, improve in price, and dividends increase in many undertakings.

MR. GRANVILLE SHARP has BUSINESS at close market prices in the following:—

IMMENSE SAVING OF LABOUR.

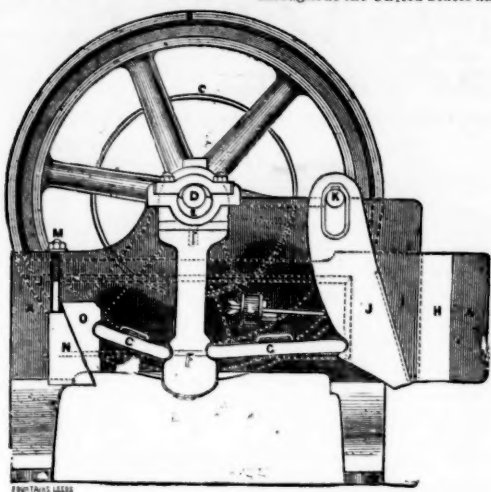
TO MINERS, IRONMASTERS, MANUFACTURING CHEMISTS, RAILWAY COMPANIES, EMERY AND FLINT GRINDERS, MEADAM ROAD MAKERS, &c., &c.

BLAKE'S PATENT STONE BREAKER,

OR ORE CRUSHING MACHINE,

FOR REDUCING TO SMALL FRAGMENTS ROCKS, ORES, AND MINERALS OF EVERY KIND.

It is rapidly making its way to all parts of the globe, being now in profitable use in California, Washoe, Lake Superior, Australia, Cuba, Chili, Brazil, and throughout the United States and England. Read extracts of testimonials:—



The Parys Mines Company, Parys Mines, near Bangor, June 6.—We have had one of your stone breakers in use during the last twelve months, and Captain Moreton reports most favourably as to its capabilities of crushing the materials to the required size, and its great economy in doing away with manual labour. For the Parys Mining Company, JAMES WILLIAMS.

H. R. Marsden, Esq.

Eaton Emery Works, Manchester.—We have used Blake's patent stone breaker made by you, for the last 12 months, crushing emery, &c., and it has given every satisfaction. Some time after starting the machine a piece of the moveable jaws about 20 lbs. weight, chilled cast-iron, broke off, and was crushed in the jaws of the machine to the size fixed for crushing the emery. THOS. GOLDSWORTHY & SONS.

H. R. Marsden, Esq.

Alkali Works, near Wednesbury.—I at first thought the outlay too much for so simple an article, but now think it money well spent. WILLIAM HUNT.

Welsh Gold Mining Company, Dolgelly.—The stone breaker does its work admirably, crushing the hardest stones and quartz. WM. DANIEL.

Our 15 by 7 in. machine has broken 4 tons of hard whinstone in 20 minutes, for fine road metal, free from dust. Messrs. ORR and MADDISON, Stone and Lime Merchants, Darlington.

Kirkless Hall, near Wigan.—Each of my machines breaks from 100 to 120 tons of limestone or ore per day (10 hours), at a saving of 4d. per ton. JOHN LANCASTER.

Oreoca, Ireland.—My crusher does its work most satisfactorily. It will break 10 tons of the hardest copper ore stone per hour. WM. G. ROBERTS.

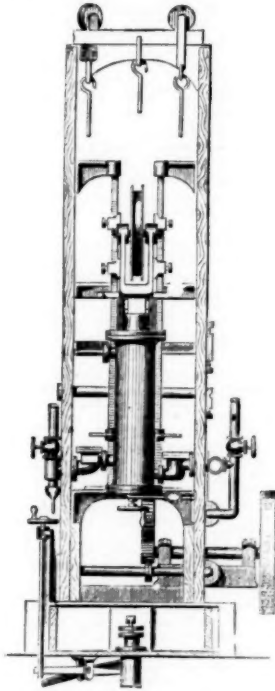
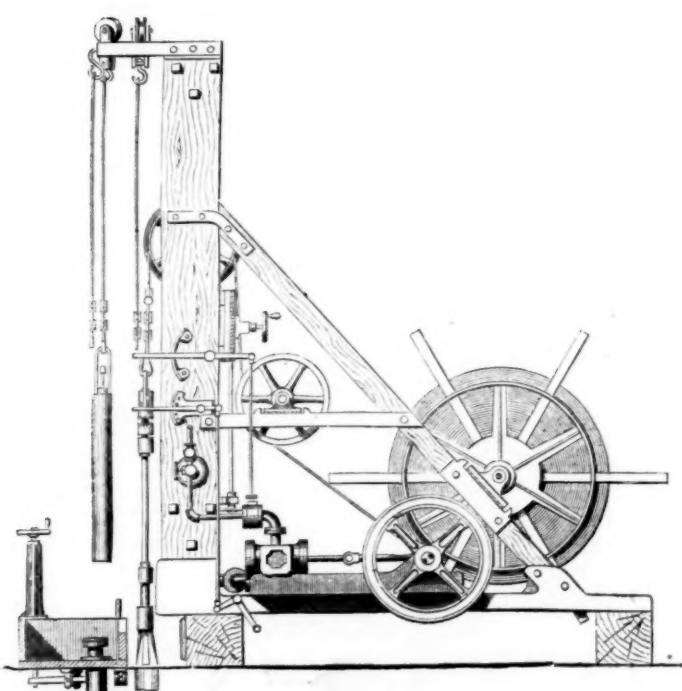
General Fremont's Mines, California.—The 15 by 7 in. machine effects a saving of the labour of about 30 men, or \$75 per day. The high estimation in which we hold your invention is shown by the fact that Mr. Park has just ordered third machine for this estate. SILAS WILLIAMS.

For circulars and testimonials, apply to—

H. R. MARSDEN, SOHO FOUNDRY,
MEADOW LANE, LEEDS,
ONLY MAKER IN THE UNITED KINGDOM.

MATHER AND PLATT,

MILLWRIGHTS, ENGINEERS, MACHINE MAKERS, &c.,
SALFORD IRONWORKS, MANCHESTER.



IMPROVED PATENT EARTH BORING MACHINES.

A considerable number of these Machines has been in most successful operation for some years in exploring for minerals and coal and the boring of Artesian wells, for supplying many towns, manufactories, &c., with water. Upwards of 50 bore-holes, from 4 in. to 24 in. diameter, representing in all 20,000 ft. of boring, have been sunk in various parts of the world, through rocks of every form and degree of hardness, from the New Red Sandstone to the Igneous formations, as well as Chalk and the London Clay.

The Machine is worked entirely by steam-power, requiring a small boiler, from 6 to 12 horse power, according to diameter of the bore-holes. The framing is made of wood, to render the Machine of easy transport.

The rate of boring is not appreciably decreased as the depth increases, as a flat rope is used in place of rods in the old system.

Prices, &c., can be had on application.

SPECIAL NOTICE.

CLAYTON, SHUTTLEWORTH, AND CO.,

At the Triennial Trials of the ROYAL AGRICULTURAL SOCIETY OF ENGLAND, held at Bury St. Edmunds, July, 1867, received the following AWARDS:—

For Single Cylinder Portable Steam Engine,—THE FIRST PRIZE OF £25.

For Double Cylinder Portable Steam Engine,—THE FIRST PRIZE OF £25.

For Horizontal Cylinder Fixed Engine,—THE FIRST PRIZE OF £20.

For Double Blast Finishing Thrashing Machine,—THE PRIZE OF £15.

Also, THE SOCIETY'S SILVER MEDAL for Adjusting Blocks for Machines;
PARIS EXHIBITION, 1867, GOLD MEDAL.

The duty performed by all CLAYTON, SHUTTLEWORTH, and Co.'s Engines on this occasion considerably exceeded that of any others, and has never been equalled at ANY of the trials of the Society. CLAYTON, SHUTTLEWORTH, and Co. refer with pleasure to the fact that the duty of their "Commercial" or single valve engine at Chester, so long ago as 1858, was not equalled by any "ordinary" Engine at Bury.

CLAYTON, SHUTTLEWORTH, & CO., LINCOLN; and 78, LOMBARD STREET, LONDON.



PATENT FLEXIBLE TUBING,

AND BRATTICE CLOTH FOR MINES

MANUFACTURED BY

ELLIS LEVER,

WEST GORTON WORKS, MANCHESTER.

Army Contracts.

WAR OFFICE, PALL MALL, LONDON.



TENDERS WILL BE RECEIVED by the Director of Contracts, War Office, Pall Mall, London, until Twelve o'clock noon on the 29th instant, for the SUPPLY OF BREAD AND MEAT, for the use of Her Majesty's Land Forces stationed in the following places, from 1st December, 1867, to 31st May, 1868:—

LONDON DISTRICT.

Commissariat Office, 109, Victoria-street, London, S.W.

- | | | |
|--|--------------------------------|---------------|
| 1. Chelsea Barracks—
for all the troops
in London. | 2. Hounslow & Kneller
Hall. | 4. Windsor. |
| | 3. Hampton Court. | 5. Sandhurst. |
| | | 6. Guildford. |

NORTHERN DISTRICT.

Commissariat Office, Barrack-street, Hulme, Manchester.

- | | | |
|---|---------------------------|------------------------------------|
| 1. Bury. | 9. Burnley. | 19. Hartlepool new bat-
teries. |
| 2. Sheffield. | 10. Manchester & Salford. | 20. Paul's Point on the
Humber. |
| 3. Preston. | 11. Birmingham. | 21. Bradford. |
| 4. Fleetwood. | 12. Coventry. | 22. Newcastle-on-Tyne. |
| 5. Ashton-under-Lyne. | 13. Northampton. | 23. Seaham. |
| 6. Liverpool, Liscard,
and Perch Rock. | 14. Weedon. | 24. Carlisle. |
| 7. Chester. | 15. Tynemouth. | 25. Leeds. |
| 8. Isle of Man. | 16. York. | |
| | 17. Sunderland. | |
| | 18. Stallingborough. | |

EASTERN DISTRICT.

Commissariat Office, The Camp, Colchester.

- | | | |
|----------------|-------------------|--------------------|
| 1. Colchester. | 3. Langford Fort. | 5. Norwich. |
| 2. Harwich. | 4. Ipswich. | 6. Great Yarmouth. |

WOOLWICH DISTRICT.

Commissariat Office, Royal Artillery Barracks, Woolwich, S.E.

- | | | |
|--|--|---|
| 1. Woolwich, in-
cluding Depl-
ford. | 2. Purfleet
and live cattle,
and sheep or
slaughtered meat. | 3. Shoeburyness } Bread and meat.
4. Warley Barracks } Bread and meat.
5. Maidstone } meat. |
|--|--|---|

CHATHAM DISTRICT.

Commissariat Office, The Barracks, Chatham.

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|---|--|-------------------|
| 1. Chatham—Flour (two qualities, and rice flour for dusting), live cattle and
sheep, or dead meat. | 2. Gravesend, including "New Barracks," Tilbury Fort,
Coal House Point, and Shornhead,..... | } Bread and meat. |
| 3. Upnor Castle | | |
| 4. Sheerness | | |
| 5. Isle of Grain | | |

SOUTH EASTERN DISTRICT.

Commissariat Office, Camp, Shorncliffe.

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|--|---------------------|
| 1. Shorncliffe, Sandgate Castle, Folkestone Battery, and Martello Towers,
[from 1 to 9]. | 2. Walmer and Deal. |
| 3. Canterbury—Cavalry and Infantry Barracks. | |
| 4. Hythe, Forts Twiss, Sutherland, Moncrief, Dymchurch Redoubt, and Mar-
tello Towers, from 10 to 27. | |
| 5. Dover—Castle and Western Heights, including Castle-hill Fort. | |
| 6. Eastbourne Redoubt, Langley Fort, and Martello Towers, from 50 to 73. | |
| 7. Hastings Battery House, and Martello Towers, from 39 to 49. | |
| 8. Blatchington Battery, and Martello Tower, 74. | |
| 9. Dungeness and Batteries. | |
| 10. Rye and Batteries, and Towers, from 28 to 38. | |
| 11. Tunbridge. | |
| 12. Brighton, with Coast Forts from Newhaven to Shoreham. | |

SOUTH-WESTERN DISTRICT.

Commissariat Office, St. Thomas-street, Portsmouth.

- | | |
|---|------------------|
| 1. Portsmouth and Outposts, including Winchester (for meat only), deliver-
able at the Commissariat Store, Portsmouth. | |
| 2. Winchester (for bread only). | |
| 3. Southampton and Marchwood. | |
| 4. Hurst Castle. | |
| 5. Littlehampton. | |
| 6. Weymouth and Portland. | |
| 7. Dorchester. | |
| 8. Parkhurst and East Cowes..... | |
| 9. Yarmouth, Fort Victoria, Cliff End, Wardenpoint, Fresh-
water, and Needles-point Battery | } Isle of Wight. |
| 10. Sandown Forts | |
| 11. Chichester. | |

WESTERN DISTRICT.

Commissariat Office, 20, East Emma-place, Stonehouse, Plymouth.

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|---|--|
| 1. Plymouth, Devonport, and Outposts. | |
| 2. Staddon Heights and Point. | |
| 3. Maker Barracks and Heights, Tregantle and Scraesdon Forts, Picklecombe
Point and Cawsand. | |
| 4. Falmouth, Pendennis, and St. Mawes. | |
| 5. Exeter and Topsham. | |
| 6. Bristol and Horfield. | |

SOUTH WALES DISTRICT.

Commissariat Office, Pembroke Dock.

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|----------------------------------|-----------------------|
| 1. Pembroke Dock. | 5. Newport, Monmouth. |
| 2. Milford Haven. | 6. Brecon. |
| 3. Penally. | 7. Cardiff. |
| 4. Mumbles Island, near Swansea. | |

NORTH BRITAIN.

Commissariat Office, 3, Hill-street, Edinburgh.

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|---------------------------|--|
| 1. Fort George. | 8. Edinburgh. |
| 2. Aberdeen and Ballater. | 9. Greenlaw. |
| 3. Stirling. | 10. Piershill. |
| 4. Ayr. | 11. Dumbarton, Fort Matilda, and
Paisley. |
| 5. Glasgow. | 12. Hamilton. |
| 6. Perth and Dundee. | |
| 7. Leith Fort. | |

Separate tenders for bread and for meat must be made for each of the above-mentioned stations or barracks, as separately grouped and numbered. Printed forms of tender, initialed and numbered, and conditions of contract, may be obtained on application to the senior commissariat officer of the district, between the hours of Ten and Four, and no tender will be entertained unless made upon the printed form so obtained.

Tenders on the printed forms must be properly filled up and signed, and no tender will be noticed unless received at the War Office, Pall Mall, under closed envelope, before Twelve o'clock noon, on the 29th instant, addressed to the Director of Contracts, and marked outside "Tender for Commissariat Supplies."

THOMAS HOWELL, Director of Contracts.

War Office, Pall Mall, London, Oct. 14, 1867.

GOLD FROM NEW ZEALAND.—The official return of the quantity of gold exported from New Zealand shows that 3,388,028 ozs. have been exported since the discovery of its gold fields, and of that quantity 179,326 ozs. were exported during the second quarter of the current year. Of the total, Otago contributed 2,138,818 ozs., and 48,590 ozs. of the quantity for the quarter.

METALLIC ALLOYS.—In the ordinary method of manufacturing alloys of copper and zinc the copper is first melted, and the zinc in a solid state is introduced into the melted copper contained in the melting pot or melting furnace. In this method of mixing and alloying the metals there is a great waste of zinc. In alloying copper and zinc according to the invention of Mr. P. A. MUNTZ, of Keresley, near Coventry, it is proposed to melt both the copper and zinc, pour the melted zinc into a ladle or vessel situated near the melting furnace, and afterwards pour the melted copper into the said ladle or vessel; the two melted metals are then stirred and immediately combine, forming a perfect alloy, the heat which is evolved in the act of combination of the metals raising the sensible temperature of the alloy, and preventing the undue cooling which would result but for the evolution of heat. The alloy is immediately ready for casting. Although he prefers to mix the melted metals outside the furnace, as described, yet the melted metals may be mixed in the furnace with nearly the same effect. In this case he melts the metals separately, and pours the melted copper into the melted zinc while the latter is in its melting vessel. Or instead of melting both the metals the copper only may be melted and the zinc in a solid state put in the vessel outside the furnace, and the melted copper tapped or poured thereon. The heat evolved by the combining of the metals is sufficient to prevent the cooling of the alloy formed. The liquid alloy may be stirred to secure perfect uniformity of composition in the alloy. The essence of the invention consists in manufacturing alloys of copper and zinc by mixing the two metals while both are in a liquid or fused state, or by tapping or pouring melted copper upon solid zinc contained in a vessel outside the furnace.

WILSON'S LILLYBANK STEAM-BOILERS.—We observed the other day another large new steam-boiler passing along our streets on its way to St. Leonard's Works. Like those we lately noticed, this boiler was from Mr. W. Wilson's Lillybank Boiler Works, Glasgow, and is, we understand, the seventh that has been supplied by Mr. Wilson to the firm of E. Beveridge and Co.—sufficient proof, we think, that they have hitherto given ample satisfaction. These boilers are fitted up with all the latest improvements, and possess every excellence for producing steam quickly, cheaply, and safely. The end plates have the double advantage of being not merely "flanged in shell," as is commonly done, and paraded as flanged ends, but is also rounded and flanged "over the flues," so as entirely to dispense with angle-iron in corners. This improvement, or novelty as it has been called, has been generally adopted at these works for more than a dozen years, and can be seen in boilers in town supplied by the same firm eight years ago. Among the latest improvements which have been made on these boilers, it may be mentioned that they are now fitted with Brace's Patent Safety Valve. The value of this valve consists in its having the weights inside the boiler, which consequently prevents them being tampered with; while at the same time it is so quick in action that when the steam is up to the pressure required the slightest touch causes it to blow off. We observe from a paragraph in a contemporary that another firm in Glasgow lays claim to having constructed their boilers for a considerable number of years on the same principle as those produced at the Lillybank Works—that is, having their end plates "flanged in shell." Any practical engineer, however, will understand that it is one thing to have the end plates "flanged in shell" only, and quite another thing to have, in addition to this, the same end plate "flanged over flues" also.—*Dunfermline Saturday Press.*

LONDON GENERAL OMNIBUS COMPANY.—The traffic receipts for the week ending Oct. 13 was 9961l. 8s.

Original Correspondence.

THE IRON TRADE—FOREIGN COMPETITION.

SIR,—You have afforded your readers some very interesting and valuable matter, by the issue of last week's Supplement, containing Reports on the "Apparatus and Processes of the Art of Mining and Metallurgy," in connection with the Paris Exhibition, by Warrington W. Smyth, Esq., M.A., &c. This gentleman's writings are always useful and instructive, because he happily fixes upon the right point, treats it in a thoroughly practical manner, and carries clearness with each description and thought, so that it is a very great advantage in all respects to have our mining educational department headed by such a person. The report on the "Working of Mines" is of especial interest, and should be read by all interested in the prosperity of our coal and iron trades, particularly by our ironmasters and colliery proprietors. It is to be feared that the "fancied security" which Mr. Smyth alludes to, in the introduction to his reports, is still too prevalent amongst our iron manufacturers, notwithstanding the frequent occurrence of proofs that our foreign competitors are fast making headway, to our loss, in this great branch of industry.

It may still be true, in a limited sense, that French ironmasters are unable to compete with the English market; but we must admit freely that the French have lately, by some reasons, taken a large amount of trade from this country, and Mr. Smyth tells us "it is notorious that a chief reason of the inability of the French ironmasters to rival in cheapness their English competitors is the considerably higher price which they have to pay for coal." The numerous causes of this are so evident, from perusing the descriptions of the seams, mode of working, &c., that we are at a loss to understand how French competition can at all affect us, until we find Mr. Smyth state that—"As far as I have had the opportunity of forming an opinion, the working colliers are generally inferior to ours in working energy, but superior in steadiness; and a great part of the credit for the present active and intelligent conduct of the French coal trade is due to the excellent technical training received by the superior officers and managers at the schools at Paris," &c. And again—"It has been a prime object to attach the men to their localities by giving them comfortable cottages at a nominal rent," &c.; "whilst it has also been sought to remove, as far as possible, the temptation of public-houses, which, in Belgium, and in many places nearer home, are a perfect curse to the working collier, and keep him in poverty, notwithstanding his good wages." These statements are very weighty, and it is a deplorable fact that many of our colliers "spree" on an average two or three days a week. They and their families exist the whole week upon a small part of the money earned by working three or four days only; a poor existence it certainly is, but altogether because the earnings—which are higher per day than the French colliers—are spent in that which does them harm only, and for the purchase of which every facility is offered, public-houses standing on all sides, and sometimes within a stone's throw of the pit's mouth. But the loss on "output," arising from this cause, is that which injures the master and the trade, to say nothing of the increased cutting price necessarily paid, and by which the collier entails so many evils upon himself and his family, through losing time and frequenting the public-house. About three weeks ago, whilst reading a notice fastened to the pit-framing of a colliery in Wales, calling upon the colliers to attend their work as regularly at the beginning of the week as at the latter part, so that orders for some heavy cargoes may not be lost, an old man standing near said to me—"Ah, it's the public that rob the pit of the men and the profits, Sir; every trade is slack but theirs, for selling drink is the best business for money making out now."

Mr. Smyth's account of the Patent Fuel is coupled with an unsatisfactory but very true remark, having reference to the enormous waste accompanying our present system of coal getting—"it is a discredit to the country at large, and will, among our descendants, entail many an anathema on the selfish stupidity of their forefathers."

There is a little work, not long published, which fully testifies to the truth of this statement, in a chapter on the "Exhaustion of our Coal Fields." I allude to "The last Thirty Years in a Mining District," by "Ignotus"—a book which everyone should read. At page 98, referring to the South Wales collieries, "Ignotus" says—"In their anxiety to avail themselves of a large get of the best coal, at the lowest rate possible, other veins of coal, which at no very great length of time would be almost priceless, are being destroyed or cut off through mismanagement," and "I know of dozens of acres of coal that have been heedlessly abandoned, and which will now be lost for ever."

We sincerely hope that the substance of Mr. Smyth's reports relating to the principle of the growth of the French coal and iron trades will be fully appreciated by our manufacturers; for, as a result, we should want no more locomotives from Creusot or any other foreign factory, and we should not have any more Newcastle mines working with French made machinery, but our position in these manufactures, as well as in the coal and iron trades, would be as much above theirs as their coal seams are inferior to ours.

City Chambers, Bristol.

WILLIAM MORGANS,
Civil and Mining Engineer.

COAL-CUTTING BY MACHINERY.

SIR,—Amongst the conditions upon which the prizes offered by the Lancashire and Cheshire Coalowners' Association are to be awarded is one that if any prize be given to any competitor the members of the Association shall have certain privileges in connection with the invention with regard to royalty, and it has been stated that this clause has caused many inventors to decline to send in their machines to be tested; yet this can scarcely be the case, when it is considered that there is not a machine in existence which would give the maker or designer any exclusive right worth having in a Court of Law. Every machine which I have seen, and I think I have examined all which have been sufficiently perfected to be employed in cutting coal, are but mere designs, and none of them could be made without infringing a previous patent, or clashing with an abandoned patent, which would enable anyone desiring to use them to manufacture for themselves. No one can be prevented from using the pick or the circular saw for cutting the coal, and the ordinary high-pressure engine and the trunk engine are likewise open to anyone; while with regard to the hydraulic cutter, the fact of its requiring water at a pressure of 300 lbs. on the square inch is ample to ensure its condemnation by all practical men, except for very special cases.

The first of the recently-invented pick machines was that of John Rothery, which was worked by hand, and this was improved upon by applying steam; but neither one nor the other were found to be capable of practical application, and I do not think that the patent fees have been paid up, so that anything included in the patents can be used by the public. The next attempt was with a similar machine patented by Messrs. Jones and Ridley, who substituted a trunk engine for the high-pressure engine used in the machine of Messrs. Firth, Donisthorpe, and Ridley, already referred to, but this was also unsuccessful, the only machine upon that construction made having been tried, and found wanting, upon a piece of soft freestone in an engineer's yard in Southwark; this machine has never left the engineers, and lies rusting and worthless. Then comes the machine of Messrs. Jones and Levick, which is a further modification of that of Jones and Ridley; it has proved equally unsuccessful—it was tried at the High Royd Colliery, in the Barnsley district, for a short time, and then abandoned in disgust. The difference between Jones and Ridley's and Jones and Levick's machines is that the latter has an arrangement which permits of the pick being made to strike at any angle; but this alleged advantage is only obtained at the expense of producing a more clumsy and complicated machine. There is little really new or useful in any of these inventions, and I am not aware that a single instance can be adduced to prove that either one of them is successful and economic operation.

The circular saw machine was proposed about the same time, or somewhat later, than Messrs. Rothery and Ridley's pick machine, but it was found to be incapable of practical application, and speedily abandoned by Mr. Sturgeon, its inventor; it is now public property, and has several times been since patented and abandoned. The hydraulic cutter has not been adopted far beyond the Kippax Colliery, and so general was the opinion that the principle of using water, especially at the pressure named, was undesirable in connection with

colliery operations, that the South Lancashire and Cheshire Coal Association (the whole of the members of which had the advantage of examining the machine, and hearing the inventor's explanation of it, when he exhibited it in Mosely-street, Manchester, in front of the Royal Institution), in the list of conditions for competitors for the handsome prizes offered by them, carefully introduced a clause to exclude all in which water was the motive power. I fear, considering the machines at present known, that no premium will be awarded by the Association unless some machine be forthcoming by Nov. 1 which is totally different from any which has been publicly described, and unlike anything which I have seen. No machine has yet been devised which, taking a full month's work, will enable a given number of men to do as much work with the machine as can be done by the same number without the machine, but with the ordinary tools, in the same time.—Oct. 14.

COLLIER.

MINES AND MINERALS OF NOVA SCOTIA.

SIR,—The importance of the minerals of Nova Scotia have at last been recognised, not by the Government, but by our neighbours the Americans, who are speculating largely in the gold mines of Waverly, Renfrew, Oldham, and Tangier. The amount of capital already expended by these enterprising individuals from the States has operated beneficially in a variety of ways, independent of their mining operations. I believe that the present year will exceed all former ones in the advancement of the mining interests of the province, and which is entirely owing to the speculative spirit shown by our American cousins. Gold mining is proceeding with activity in all the gold districts, and men find ready employment, as there is a great demand for experienced miners, who are able to earn from \$2 to \$3 per day. The rents for gold claims are merely payments made on commencing to work a mine, and not afterwards repeated—\$10 is the charge for every area of 250 ft. by 150 ft.; but if the claim is on the owner's land only \$2 is charged. The prospecting license gives permission to search for gold in any district when it is vacant or Crown lands, but when it is private property permission has first to be obtained from the owner of the land. The license costs \$1 per acre. The gold is obtained principally from quartz crushings, as the alluvial washings will scarcely compensate for the labour. The produce of the gold quartz seams bid fair to vie with those of California and Australia. In nearly every instance the quartz is found to increase in richness the further they descend. As an example, the Montague Vein, about six miles from Halifax, yielded of gold per ton of quartz in the commencement 2 ozs. 3 dwts. 4 grs., and at the last accounts it yielded 5 ozs. 9 dwts. 8 grs. per ton.

The searches for coal are principally in the Island of Cape Breton and County of Cumberland, in both of which localities several new mines have been opened; the charge for the right of search is \$20, which gives the exclusive rights over five square miles for one year, and for that small sum a very extensive area may be monopolised. The mining leases are charged after the persons having the right of search determine upon the locality on which they intend to commence work. Manganese has been attracting the attention of the capitalists, by the discovery of this valuable metal at Tennycape and Walton. There is one mine where the vein is 2 ft. thick, and yields 90 per cent. of pure metal; the ore is principally sent to the States, where it is sold for 7½ sterling per ton. It is to be hoped, now the Province has joined the Dominion, there will be something done to develop the mineral resources of Nova Scotia, as no efforts have been made by the Legislature to institute a Geological Survey, nor even measures taken for exploring the country, and, consequently, very little is known of its mineral treasures. That which we are already acquainted with has been brought to light during the past few years, and through private enterprise.

J. TENNANT, Jun.,
Mineralogist.

Oct. 17.

DISCOVERY OF TIN IN MISSOURI.

SIR,—Scarcely could the announcement of the discovery of any other mineral than tin have created an excitement in the United States, and especially in Missouri, a State having a mineral region of over 18,000,000 of acres, with two iron mines—the Iron Mountain and Pilot Knob—alone equal in extent to those of Elba, Sweden, and Norway, irrespective of her almost inexhaustible deposits of copper, lead, nickel, zinc, and cobalt, to say nothing of many other valuable deposits of minerals which she justly claims to exist within her limits, and now to add tin, the discovery of which has already been published in your valuable Journal. I feel that under such circumstances even old Cornwall will forgive Cousin Jonathan for a little excitement over the discovery of a metal that no one scarcely needs more in every day use than he does, and for which he has so long been entirely dependent on foreign countries for, at an annual cost of \$5,000,000. This annual cost, however, may not be much reduced for years yet to come, for while I am confident that tin really exists in paying quantities, I must admit that both time and capital are all important in the development of this (to the United States) new branch of metallurgy.

I have become very much interested in what is now termed the "tin question," and have just returned from the district of the new discoveries, having, however, previously and frequently visited and explored it. The locality is situated about 100 miles south of the city of St. Louis, and about 15 miles south-east of the present terminus of the St. Louis and Iron Mountain Railroad, and mostly in the counties of Madison and St. Francis, which counties form the eastern extremity of the Ozark Mountains. The district is of itself very mountainous, the granite, trap, and porphyritic rocks having been thrown up through the stratified formation in mounds, ridges, dykes, and mountains to a height of at least 1000 ft. above the city of St. Louis, and in these occurs the tin in defined lodes, &c. The lodes bear nearly north and south, and the tin also occurs in alluvial floors, decomposed granite, and black sand. The lodes are distinctly observable at the surface, from the change of the country in which they occur, while very heavy and massive porphyry capels cross them.

The first assay made for tin was from the stone thrown to the surface from the back of one of these lodes, and a result of 1½ per cent. was obtained. The next assay was made from the tinstone secured from the same lode at a depth of about 5 ft. from the surface, which gave a result of about 2½ to 3 per cent.; while the last assay, made from the same lode, was from the ore secured from a depth of about 12 ft., and gave a result of 7 per cent. of pure tin. The lode at this latter depth shows every appearance of widening in its downward course, while the ore is certainly richer and more defined in its character, and is associated with a very rich gossan, tungsten iron, mudioc, and spar, with small particles of gold, &c. I feel almost assured that this lode will at a depth of 50 feet yield at least 15 per cent. of pure tin, and can be worked to a depth of 300 or 400 feet without the interruption of water. The alluvial floors crop out along the spurs of the mountains at least 300 ft. below their summits, and have very much the appearance and formation of a bed of coal. Having made no excavations on these floors, I am unable to state or even to give anything like an approximate idea of their extent. Assays made from them showed a yield of about 3 per cent. of tin.

The decomposed granite, in which the tin appears to be abundant, but from which no assay has yet been made, occurs in basins or in isolated deposits. In one of these basins or deposits I found an old well, sunk to a depth of 40 ft., and after having it cleaned out I discovered at this depth a continuous compact body of this deposit, with every appearance of its extending to a still greater depth, all of which can be removed, washed, and dressed as easily and with as little cost as from any stream ground in Cornwall.

The black sand is found along the sides of the creeks and in their beds, as well as in the ravines, and is constantly being increased from the washing of the mountains, &c. This sand assays from 3 to 5 per cent. of tin, and this, as well as all of the other assays, was made from the crude undressed tinstuff. The mines are worked by Cornish miners, who are now fast settling in the district, and are very highly appreciated by their employers for their mining skill. The Cornishmen all agree that tin exists in paying quantities.

In conclusion, Sir, permit me to express my belief in the prospect of a New Cornwall springing up in Missouri, and that enough tin really exists to be worthy the attention of the English mining capitalists, especially at this moment, when land can be secured at very low rates, while, at the same time, but few are acquainted with tin mining, or with the formations of tin ores. In my next I shall refer

more particularly to the discovery of tin, and the parties operating in the district, and hope at some future time to draw the attention of your readers to the vast lead fields of Missouri.

St. Louis, Missouri, U.S.

R. W. DUNSTAN.

HISTORY OF MINING—No. XII.

SIR,—In my last letter I offered some strictures upon the theory of the Right Hon. Mr. Gladstone—that the age when the use of iron became general succeeded several other periods when man, less civilised, but progressive, used stone, and afterwards copper. Permit me to make a few further remarks on this subject, as everything connected with the origin and progress of mining is interesting to the readers of your Journal. I endeavoured in my last letter to show that Mr. Gladstone's theory, resting, as it does, upon the assumption that man commenced his career in an extremely uncivilised state, and found his way up by degrees to his present position, was false in fact, and contradictory to the narrative of man's history contained in the sacred Scriptures. Man did not commence with arrows of flint and stone. The biblical account is that he set out at once in the possession of intelligent tastes, habits, and principles, to till the earth out of which he was taken, and build cities where he might hold communion with his race, and study nature and the arts. I was struck with a discussion recently maintained in Paris, as illustrating my own doctrine. The Anthropological Society held an assembly there, a sort of conference; their theory favours Mr. Gladstone, for they represent the white races as a development from mute blacks, who were in their turn a development from an inferior type, so that step by step, and through breeds and degrees of apes and baboons, man at last was brought forth, fair and intelligent where he happens to be either. A French physician and philosopher, at the Paris meeting referred to, declared that from various physical phenomena it was evident that the white or fairer races did not spring from a black ancestry, but that the converse of this was plain. He used two arguments, which appear to me conclusive. One of them was that the black races in course of time became fair, by change of climate and geological situation. The other was a more subtle and striking argument. He showed that frequently white children were born of black parents, still more frequently coloured children of various and diverse hues from parents perfectly black—from pure negroes; while, on the other hand, an instance has never been recorded of a black child born of white or coloured parents.

If this be true, as I believe it to be, the inference is obvious; the black and deeply-coloured races are so from the influence of climate and topographical peculiarities. As much of the theory which misled Mr. Gladstone rests upon the other hypothesis of the origin and development of races, it is important to adduce such facts, *apropos* of his assertions about the late discovery of iron. The progress of man has not been from a brute origin, or a low type of human origin. There are many evidences that the most ancient races were, in many respects, *naturally* superior to the present, but the enlightening influence of Christianity has given to man a peculiar elevation; it has widened the scope of his knowledge, purified the processes of his enquiry, and pervaded all his philosophical speculations with the great master-thought of an all-wise, omnipotent, infinitely benevolent, and supreme Ruler of the Universe. It is probable—at all events, possible—that a higher dispensation may yet be accorded to man. Such is the opinion of many of the ablest divines of all churches, of all ages, and is a very prevalent doctrine among philosophical divines of our own time. I cannot pretend to discuss such a question; while, in common with yourself, Sir, and other enquiring laymen, I feel a philosophical interest in it. It is remarkable, however, that ages of refinement and progress have always been characterised by an extensive use of metals and knowledge of metallurgy. The earliest ages, with all due respect for Mr. Gladstone, were thus characterised. There was more gold, silver, copper, and amalgamations of these metals in any one of the great cities of Eastern or Western Asia, Egypt, or the far far western world, in a remote antiquity, than there is now in circulation in the whole of Europe. It has been customary with historians to panegyricise the Romans as the propagators of all intelligence and enterprise in the Roman age. I modestly assert that this opinion is propagated by the common fact of one historian copying another so frequently. The Romans civilised nations, and destroyed, at the same time, purer, simpler, and more consistent forms of civilisation. In Britain they were miners, so were the Moors in Spain, but in both cases the *modus operandi* was injurious to the interests of mining.

The *regime* of the middle ages was hostile generally, although not absolutely and everywhere, to mining and physical science, and those ages were proportionately barbarous. That period was begotten by the Romans. There was a darkness which characterised both, and which at the same time identified them as kindred in genius and spirit, although a different religion produced modifications of thought, not always an improvement, because that religion itself was influenced by the forms and even by the spirit of old Rome. Over a large space of time mining fell into abeyance, and with it civilisation retrograded. The freedom of thought which received so powerful an impetus in the fifteenth century, too slowly as it appears to us, but at last surely directed the investigation of men to the earth beneath and the heavens above, and natural philosophy and mineralogy, as well as practical mining, became objects of pursuit. The most recent times, like the oldest era of light, has been characterised by mineralogical science; the dark periods of history, whether Pagan or Christian, were periods when the nations became poor in metallic treasure. If in the earliest ages the cities and nations teemed with metallic wealth the inference by parity of reasoning is fair—that their civilisation was of a high standard. Indeed, it is plain that we must ignore the most authentic records of history if we doubt the grandeur, taste, wealth, and refinement of the most ancient communities of mankind. If this be so, Mr. Gladstone and the Anthropological Society (with which he has otherwise so little in common) must fail to convince us of a barbarous origin of man, who, ignorant of metals, only groped his way to the employment of iron after a long period of gradual advancement.

Mr. Gladstone said, in his Lancashire speech, that iron was seldom found in a native or pure state, and by something rather more than implication he led his audience to take up the impression that copper was often found in that state. It is now undoubtedly more frequently found in a pure state than iron, but, as a general rule, the primitive miners would have as much trouble to get the one as the other, or so nearly so as to make the argument of little weight. Copper was undoubtedly at first more plentiful than iron, but it required not a long period, as set forth in the Gladstone theory, but a very short period, to bring the men of the day up to the occasion, and enable them to discover, manipulate, and use iron in any way, so as to erect the gorgeous cities of antiquity, transcending all we now know.

There is one proof of the antiquity of man's acquaintance with iron, which Mr. Gladstone must have forgotten when addressing the people of the new wildernesses of forges and furnaces in Lancashire. It is recorded in the sacred Scriptures that the use of iron is nearly as old as the world. The existence and knowledge of gold and some precious stones receive a previous recognition, but iron is noticed at a period so early as to leave no hope for the theory of Mr. Gladstone, whether we accept for our guidance the chronology of Archbishop Usher or of Judge Hale. The first mention made of iron in history is made at the same time as mention is made of brass, which was, no doubt, the name given to copper. Gold and onyx stone are earlier noticed—in fact, the second century of the world's age had scarcely terminated before men were well acquainted with metals, and skilful in their workmanship. So far are the rise of the arts and the history of civilisation from being difficult to trace, or doubtful in character, that there is infallible evidence of the great salient facts connected with them. The divine plan was not to let the savage make his way up as best he could; but, on the contrary, to raise up men of genius, such as Tubal Cain, to invent useful arts so soon as people became sufficiently numerous to group themselves in considerable communities. On this theory, which the Book of Genesis plainly sets forth, iron must have been known and used as early as man required it. Such the author of the Pentateuch declares to have been a matter of fact, for he represents both iron and copper as wrought for general purposes, Anno Mundi, 230 (accepting the chronology of Archbishop Usher). It is not to be supposed that the knowledge of iron, and the way to work it, perished when the deluge

swept away the antediluvian population from the earth, for Noah and his family could never have constructed such a building as the Ark without iron tools, and iron to strengthen its different parts; and, therefore, they would go forth from the Ark perfectly aware of the important part which iron must play amongst the new communities of men. Unless it can be proved that the family of Noah was ignorant of iron, and that the vast cities and monuments built by their immediate descendants were erected without iron tools, or nails, the theory of Mr. Gladstone remains without support. The *onus probandi* rests with its advocates, whereas the bare facts of the construction of the Ark, and the founding of vast cities during the lifetime of Noah, furnish reasonable ground for the conclusion that the knowledge of iron, of the means of procuring it, and the art of working it was transmitted to the earliest inhabitants of the past-diluvian world by the survivors from the deluge.

Gresham House, London.

THOMAS SPARGO.

POLITICS AND COMMERCE.

SIR.—The prospect of an autumnal session, to commence Nov. 19, will bring home to our Legislature the responsibility of sanctioning a war. It is vain to disguise, what everyone knows and feels, that by invading Abyssinia we are making another leap in the dark, quite as venturesome as that which signalled last session. It is essential to the maintenance of our "prestige in the East," and upon our "prestige in the East" depends not only the security of our Indian empire, but the personal safety of many thousands of our countrymen. Full explanations will, of course, be given to Parliament of the measures which have been adopted by the Indian Government, but it will manifestly be too late for Parliament to exercise any effective control over the application of its grant. The immense popularity of this war in India, and the keen interest taken in it by the whole Indian service, will quicken the zeal of all concerned in organising the expedition, whilst the session this autumn will not prove fruitless if it should elicit a statesman-like discussion on our future position in the East, for the Abyssinian question in its political aspect is but a part of this general subject. At all events, there must be a tacit understanding to shelve Reform for the present. The atmosphere of November is not congenial for the consideration of so exhausted a subject, and neither party can desire to anticipate the natural expiration of the armistice next February. It is a feature in respect to the Abyssinian war the selection of Sir Robert Napier as commander. The rule has been not to choose generals-in-chief from the ranks of the scientific corps, but Sir Robert Napier is an engineer. Napoleon was an artilleryman, Lee was a topographical engineer; the best living commentator on the operations of war—Colonel Hamby—belongs to the Royal Regiment of Artillery. Substantially our artillerymen and engineers are the only thoroughly trained soldiers that we have. The social influence is in favour of the Guards and the Line, but the selection of the Abyssinian command breaks through the hitherto iron rule—hence we hope in future to see the best man in his proper place, no matter from which branch of the service he springs.

In defiance of divers and conflicting rumours, adverse and favourable, respecting the unsettled state of Europe, the leading funds were well supported throughout the month of September, quotations being:

English 3 per cent. Consols	94½	94½	94½	94½	94½
Dutch 3½ per cent.	54½	54½	54½	54½	54½
Belgian 4½ per cent.	100	100	100	100	100
French 3 per cent.	69½	69½	69½	69½	69½
Austrian, 5 per cent. (Metalliques) ..	57½	57½	57½	57½	57½

Consols presented throughout the month a range of ½ per cent. only for speculative gains or losses; the practical effect would be encountered by outside operators of 15s. per cent. loss had they purchased at the highest and sold at the lowest quotation, whilst no profits would accrue had they fortunately purchased at the lowest and sold at the highest, the difference of 7s. 6d. per cent. being absorbed by the jobber and the broker's commission. There was no range for speculative dealings in Belgian stocks. In Dutch a decline of 2½ 5s. per cent. was established, or just 4½ 2s. 6d. per cent. in money value—say nine-tenths of a year's interest. French Three per Cents. only fluctuated 15s. in value, a fall of three months' interest. Austrian Five per Cents. fell off 2½ 5s., or 3½ 18s. per cent. in money value; stock now selling at 44½ per cent. dis. At the closing quotations for Sept. 30—

Consols yield investors	£3 3	6 per cent.
Dutch	4 14	9
Belgian	4 10	0
French	4 7	0
Austrian	9 0	0

The annual produce of copper ores in Cornwall and Devon is about 10,000,000 lbs., or (say) 500,000,000 sterling annually, and most of the mines are worked at a loss. It is true that they afford employment to large masses of the working people throughout those counties, and consume large quantities of materials, as, for instance, coal, timber, candles, iron, ropes, and various other manufactured articles; but, on the whole, the mines in question are prosecuted by absorbing capital of at least another half million—in plain figures, the mines in question require an annual expenditure of 1,000,000,000 to produce just one half the revenue, and with the exception of the Devon Great Consols, South Caradon, East Pool, Seton, West Seton, East Caradon, Prince of Wales, South Wheal Frances, and Wheal Basset, no mine for the current year has afforded a single example of a fair dividend from legitimate gains. It is true that there are several promising copper mines that are well worthy the attention of capitalists, but these are all but unknown in the London markets, as, for instance, South Crofty, South Condurrow, Creegbarrow, Prosper United, West Tolgus, North Pool, and East Wheal Neptune. It is true that there is a London Mining Exchange, but the members are too apathetic—they want spirit, life, energy. How is it we so rarely hear of dealings in such mines as the Devon Great Consols, Minera, South Caradon, Dolcoath, Lisburne, Llangynog, Cwmystwith, Darren, Dyllife, and others of the like calibre and character? But this state of inaction is not in any way characteristic of the true position of mining enterprise throughout England, Wales, and Scotland, for at no period within the scope of our experience, extending over 30 years, have mining pursuits afforded such satisfactory results, or afforded so fair a field for legitimate and honourable expenditure of capital. There was more steel manufactured and exported last year than at any former period, and the production of coal and iron monthly increases.

The products of earths, clays, ores, and minerals keep pace with the growing requirements of the day, and present a healthy appearance unknown in former years. Again, the yield of lead both in Cornwall, North and South Wales, Cumberland, Westmoreland, Durham, and Yorkshire, together with Kirkcudbrightshire and other districts in Scotland, afford testimony of inexhaustible resources, and the production thereof is attended with large and substantial gains. The tin mines are almost exclusively restricted to Cornwall, but at present few mines of note can be referred to. The Great Wheal Vor, Dolcoath, and Providence are the most valuable, but these can scarcely be called gems at current prices of shares. It is easy to detect mines that do not, and that never will, pay profits, from excess of returns over costs of production, but it is not so easy to point out mines that will pay with certainty, even with perseverance, and outlay, and practical supervision and management, but science and the arts have done much to unravel natural phenomena, and the hazards now associated with practical mining pursuits are greatly diminished; whilst, taken as a whole, no description of speculative investments pay better, or afford so many healthy and brilliant examples of success. These instances are not rare, and when they turn up they fascinate and enrich the fortunate possessor, and infuse life and vitality throughout the district in which the mine is situated, beyond any other class of property, no matter how large the gains or widely extended may be the advantages and usefulness of the discovery.

The railway interests of Great Britain are in many instances, as to progress and completion, at a standstill. The position of an important and widely-extended property, absorbing of the nation's wealth above 500,000,000, sterling, is not only in a precarious but an extremely hazardous condition, and we cannot but add that we regard legislative interference and assistance imperative. The conviction is very generally entertained that railways cannot pay a fair and remunerative rate of interest upon the costs, either in this country or the colonies, if they be dependent alone upon tolls and fares authorised and circumscribed by Parliament, and levied upon passengers and goods. This view is supported by the results displayed to public view in the partial insight we possess as to the affairs and prospects

of the London, Chatham, and Dover, the Great Eastern, the Brighton, the North British, the Edinburgh and Glasgow, the South Devon, the Manchester, Sheffield, and Lincolnshire, the Great Western, the South-Western, the South-Eastern, and a number of others which we might enumerate. In the face of these revelations we cannot expect that the disappointed and dissatisfied shareholders already embarked in railways will respond to fresh appeals for capital to construct other lines upon an adequate scale to meet the exigencies of the times, and to develop the resources of the country. It is, therefore, expedient for the common welfare that the Legislature should step in and devise some means of relief, not only in respect to that class of railway property above referred to, but also to engender confidence in the security of capital required to make that network of our iron roads complete which remain untouched, but which must be constructed in order to open out and extend the trade and commerce of the community to its legitimate and natural standard, and throughout the length and breadth of the kingdom. We have before observed that 500,000,000, is already expended, and should the Government guarantee 3 per cent. per annum on all guaranteed preference shares, and stocks and debentures, and 1½ to 2 per cent. on all ordinary shares and stocks for 50 years, at which date the railways should become the property of the nation, then an additional tax of 10,000,000,000 annually would be added to the nation's expenditure, should the revenue of the lines not contribute beyond the costs of working expenses; but it is a point well worthy consideration in adopting such a policy to examine the statistics, and we are greatly mistaken whether if the fares were reduced to ½d., 1d., and 1½d. per mile for parliamentary second and first-class passengers the revenue would not become greatly increased, and to that extent as to pay the Government guarantee, and to free the nation from every risk of loss, whilst in 50 years the railway themselves would become Government property. Probably, with good legislation, in their established and matured condition they would realise a margin of profits ample in every respect to meet the charges of working, and also to cover the interest on the National Debt in addition thereto. This latter will never be paid through redemption of principal, yet it is more than probable that wise and discreet legislation may make the railways a source of revenue to liquidate, or rather to neutralise, the former, and thus through the extension of commerce and trade relieve the nation from a burden which at present is severely felt by every member of the community.

Oct. 17.

INVESTIGATOR.

SLATE TRADE IN NORTH WALES—No. VII.

SIR.—We now come to consider the subject of removal of the rock to be converted into slates, and the manner in which each kind of labour relating thereto should be divided. The general practice is to set the "guttering" to the men conjointly with "slate operations," but this is extremely censurable, and a few reasons only will suffice to demonstrate its impracticability. The "floor gutter" and the "pillar gutter" should always be sufficiently advanced before the "rockmen" commence their "bargain" work. But let us for a moment glance at the difficulties presented when the terms of agreement are to be arranged for working the "slate bargains" and "guttering" in one contract. It is often alleged by the parties about to tender for the work (who, by the way, strive to make as good a bargain as their tact can invent) that many obstacles combine to render the situation unfavourable, and the opening difficult and expensive. The most intimate knowledge of the circumstances presented, and of the transitional differences which may be looked for during the term of contract, will now be of invaluable service. The keenest acquaintance with the description given will be necessary in order to decide fairly between master and man, and also to furnish a solution sufficient to explode the aptly defined theorem so often concocted to deceive. It would be next to impossible to determine the great loss sustained by quarry owners whose manager is unlearned in this intricate work. "Guttering" in any ordinary quarry should be let at per yard as a distinct contract—first, because men who are employed on this sort of labour work much cheaper than "rockmen"; and, secondly, from their being accustomed to boring and blasting they can do much more work with greater ease. Another important item is, that two or three days are often lost to the "hill men" (slatemakers) during the first week in every month, on account of the "loose end," or the "loose side," having to be made before "blocks" can be obtained; and this time might be profitably applied to the manufacture of slates by setting the "guttering" to a separate party. No excuse could be formed by which to misrepresent the so-called "tight" and expensive process of opening the bed of rock to be wrought upon, and the extra quantity of powder said to be required, often made so much of and commented on as a set-off, in order to obtain a high "poundage," would be totally stripped of its disguise, and consequently renounced. Another and much weightier argument in favour of letting "guttering" distinct from "slate bargains" is the fact that double the number of "rockmen" and "slaters" could be distributed over each "gallery," thereby increasing the monthly make of slates from the same area 100 per cent. As it now is (in most quarries), from 40 to 50 hands are allowed surface sufficient for 100 men, consequently the company has to develop an extensive quarry at a great outlay before any remarkable quantity of slate can be produced. There are many other reasons which I could advance, but shall defer doing so for the present. It may be argued that "gutter opening," especially "floor guttering," if carried on at the same time as the slate excavations, would interfere with and impede the progress of loosening the rock above, and also hinder the men engaged (on the floor of the gallery) in preparing the "blocks" for transit to the "slate bank." This argument has no foundation. The "floor gutter" in all cases must be opened to a given distance, as well as the "pillar gutter," before any slate rock can be removed, and thenceforth it can be kept sufficiently in advance, so as to be entirely out of the way of those workmen engaged upon rock operations.

This rule will apply to each successive stratum opened upon throughout the whole width of the slate vein. The "gutters" having been let independently of other work, their actual cost can be accurately known, and all questions respecting them (as far as may relate to slate contractors) satisfactorily set aside. Having met to consider the quantity of the slate rock, its size and cleavage properties, the facilities for extracting or removing it from its bed, and the proportion which (under all circumstances) ought to be manufactured from a given number of solid yards of rock; these facts should be carefully analysed, and a proper estimate put upon them, before the "slate bargains" can be judiciously apportioned to the workmen. This all having been done, the agent is fully prepared to negotiate with the men upon fair and equitable terms for making marketable the slate rock. This subject of "letting" is of incalculable importance to the shareholders and the future of the concern, therefore a superficial survey, and a mere bird's-eye look at the matter only, fall far short of what may be considered practical or justifiable in treating a business involving consequences which must result in success or failure. The right method of working should be defined by the manager, and embodied as one of the conditions, else the parties contracting can and will pursue a course most favourable to themselves, and which is often done at the expense of the owner. A system favourable to the men is not always profitable to the employer; each party should, therefore, encounter (as far as practicable) a fair proportion of the disadvantages during the term of contract, and these should not be deferred until the last week of the month.

Tremadoc, Oct. 15.

JOSEPH KELLOW.

THE FUTURE PROSPECTS OF CORNISH MINING.

SIR.—There is a limit to deposits of mineral, like everything else in this world. The greatest proof of metallic minerals, such as copper, declining in quantity is when the quality or percentage of the ore declines in value; for example, if the average percentage of the ore declines from 10 or 12 per cent. to 6 per cent., or less, it is evident from past experience that the centre of the deposit is passed, and, consequently, the mine gets poorer and poorer every year, and the expenses go on increasing *pro rata*. This we find from experience with all our deep mines. Not one old mine in fifty ever pays or has paid. Millions of capital from time to time have been called upon and lost by reopening old mines. No man in his senses would think of marrying his grandmother. It would be well if the investing public were aware of these facts, and had they been informed of the danger of embarking in old and expensive mines, many fortunes would have been saved. No doubt these exhausted mines are profitable to certain persons connected with mining operations; for example, when mines get deeply into debt—and none but the poorest mines get, unfortunately, into that position—it is then that the mer-

chants charge what they please for supplies; and from recent experience and have been made by putting companies into the local course. In most cases the property is frittered away in law costs and endless charges. Rich are telling so fearfully against mining in Cornwall at the present time. Public attention should be directed to the discovery of new mines. All the great fortunes made out of working mines have been previous to the heavy and ruinous expenses being incurred, such as the working of old mines.

Oct. 4.

AN ADVENTURER IN MINES.

THE ROYAL COPPER MINES OF COBRE.

SIR.—During many years I have been a constant subscriber to and reader of the *Mining Journal*. In reading the published proceedings of the Company of the Royal Copper Mines of Cobre, Cuba, in the *Journal* of Oct. 5, as well as the meetings previously held in this year, I see certain reflections are endeavoured to be cast upon my judgment and management in the mining department, and, in consequence, will you kindly permit this letter, in reply, to appear in the columns of your next issue? Considering these attacks are made, meeting after meeting, for some private end, I believe I may safely assert that very many managers would have cast the abuse back with interest in the teeth of the speakers with all the scorn and contempt it merits, but I will not do so. I will thank them for their courtesy, holding them to their words, as I well know if the mines are worked in future with energy, and they are found to be exhausted, it will be to my discredit; and if they are proved to be of value, that the language used in these attacks will ultimately recoil on the heads of my detractors. If I have not before replied, I hope no one will impute to me that I declined to do so. No, no—I have to the hour maintained a respectful silence from all attacks, to screen others whom I esteem as friends, and in this letter I intend to be careful to say nothing more than is absolutely required, so as not to have a damaging effect upon anyone. However, as my silence and forbearance seem only to be met by attacks more violent and reckless, I think the time has now arrived when I ought no longer to refrain from briefly stating a few facts respecting the mines, so as to enable the shareholders to understand their position. Whether or not this statement as to actual facts will tend to improve their position (I hope it may) I must leave to you, Sir, and them to judge, who may study the facts of the case, with the reports published in the *Journal* in 1867; and I hope since certain gentlemen have spoken so freely where they think me wrong, they will be equally honourable and ready to assist the company and support my point where they think me right.

Since so much is said respecting the past management, I will begin, then, by stating that when I arrived in Cuba, early in January, 1859, a part of the mine was on fire, whether wilfully or spontaneously produced I could never discover; and although Ellice's (the pump) shaft was sunk to the 160, and 10 fms. east and 10 fms. west, or thereabouts, were driven therein, not a half foot square of ore and ground was visible in the bottom of the mine. In the face of this fact, and after careful measurement, with only about eight months of ground as "reserves" to work on, the Cobre shares were then quoted in the *Journal* at 38s. to 40s. per share. What a prospect for a new manager to contemplate! Did I write a rash report, as I might have justly done under the circumstances, to condemn the acts of my predecessor, and say the mines were exhausted? No, never; but as I felt satisfied they had lost the lode in sinking the shaft and driving the 160, I sought after it, and very soon it was again visible—a rich and valuable lode; and in the eighth or ninth month after (I am not certain which), and for years afterwards, the most valuable portion of the returns were made from this discovery. The readers may say—What are we to learn from these remarks? I say simply that the smelters paid a fair price to the Cobre Company for the crude ores regular dividends were paid, and I think it cannot be denied that from Jan. 1, 1859, to July, 1864, 11s. 8s. per share, or 126,800l., in dividends were divided between the proprietors. Now, if Mr. T. Williams will have the cool assurance to say in future, as he is reported in the *Journal* of Aug. 3 to have said, I shall only reply to him that, if he were a shareholder during the time these dividends were paid, his arguments are upon a level with his politeness.

In the published reports it has been said by one party "The mines are exhausted, the purchase of San Jose Mine could not be recommended, but the company's" possessions are too valuable to be given up." Then another gentleman says, "If they could succeed in obtaining a reduction of the railway charges, and also of the Government import duties, and if they could come to some arrangement with the San Jose Company to work with them, then it would be a fair speculation." What wonderfully curious logic! Is there a business gentleman in the City of London who, for one moment, could entertain the thought that the railway company would reduce their tariff, or the Spanish Government would remit any part of its import duties, or that the San Jose Company would join a company whose mines are said to be exhausted? These companies and the Government all know, as well as I do, that the Consolidated Cobre Mines are not exhausted, and that the old mine in particular, when I resigned through ill-health, on August 6, 1866, was a good mine.

Early in January, 1863, Mr. Petherick arrived in Cuba to inspect and report upon the mines, and in his report, issued in June, 1863, at page 4 and 5, he most clearly states the then prospects of "old mine," and he said, "I have reserves ample to yield 1200 tons of ores monthly for a period of three years. I quoted with that calculation, and it also received the cordial approval of all the other captains on the mines. Since then a large quantity of these ores have been mined and shipped; and although the south lode in bottom of the 180, at Arrida's shaft, was between soft and hard ground, and showing indications of decline (when left), it is possible at a deeper level for it to improve in size and quality, as the north lode has done recently. However, it must be gratifying to know that the north lode (when left) maintains its size, regularly, and a constant productiveness, and that I saw no indication of decline therein. I do not hesitate a single fathom of payable ground has been opened or added to the reserves since I left the mines, and I can only add, if it is intended to "dig out the eyes of the mine" in future, that a "skip-road" may be thrown through the *quinta* from the 160, at Passanger's shaft, to the slopes in the 180, and then all the ores may be excavated to the level of the bottom of sump-shaft, which from surface will be 195 fms. 2 ft. deep, but, if so done, it will be the ruin of this valuable property. Far from the mines being exhausted—I believe if the proprietors provide the manager with 140 borers daily, and the necessary force of wheelwrights, trimmers, fillers, and Cornish miners to superintend the cores and keep the mines secure, according to the mining laws in Cuba, that the ore ground in the lodes from the 180 to the 190 is sufficient for two years' work, and if worked to the 195 (as shown above) the reserves in the old mine will be most ample for three years' regular work. It is my duty, in defence, to observe further that from July, 1864, to the end of July, 1866, 14,655 tons of ores, or 586 tons per month, were raised from the north lode in the Great mine. Had I not been cut off from the great reserves in the old mine, through the accident to the machinery, &c., could I, in any doubt, if the mines were free of water, &c., of my easily raising 1200 tons of 1000 tons of ores out of the old mine, when Mr. Petherick calculated 1200 tons, and from which (before these "accidents" and "water in" occurred) we were raising 1100 to 1200 tons per month? Respecting the letter of June, 1865, I never understood why it was asked for, or the reason why it was suppressed. Let the price of copper ascend to 17s. per unit (the price given in the valuation), work the lodes in a miner-like manner to the 195, and then see if the estimated value of two years ago is highly exaggerated.

Permit me to say the chief causes which have combined together to place the company in their present state are—several serious breakages to machinery, excessive droughts, oppressive railway and import charges, but the most serious cause of depression arises from the past miserably low prices paid by the smelters to the Royal Cobre Company for their ores. Just compare the prices paid per unit in 1859, 1860, and 1861 with the prices paid per unit in 1865, 1866, and 1867, and contemplate the fearful losses this company sustained by these sales. These are the causes which have produced the difficulties, and not through a want of ore or from bad management.

For several years I have recommended the Royal Cobre Company to purchase the "San Jose Mines," and the intelligence I have received in September and October tends to confirm the correctness of that recommendation. Will anyone in London or Cuba dare to deny that the San Jose Company, in their 150 fm. level, have a most valuable lode, only about 160 ft. from their western boundary (when it will enter the Royal Cobre lands), or that from 400 to 450 tons of ores monthly are coming out of that mine? I am told that such is the case, and yet the purchase of that mine could not be recommended. I hope the Company of the Royal Cobre Mines will permit me to again recommend to their consideration the propriety of making the San Jose Company such an offer for their mines and plant as the San Jose Company can justly entertain and accept. Talk of raising 40,000l. for speculative work—its Yankee bosh. If the proprietors could afford to raise that sum, let it be applied to secure that mine on fair terms. There are very many advantages to be secured by this act of consolidation, which can never be enjoyed by the companies working separately, and I believe a remedy can be found to connect the railway tariff if the whole were consolidated. Now, to inaugurate a new era in the company's history, three things only are wanted—unity, will, and enterprise; let these be firmly fixed, that mine secured, the price of shares and dividends would be restored, and I think there is then no earthly reason why the company should not again become one of the first copper mining companies in London, for it is quite certain they would then possess a splendid mining property and plant.

I wished to have noticed other points of deep interest to those concerned, but my letter is already so long that I must apologise for the length to which it extends, and close by stating that anyone desirous of truly testing a manager (and mine), not of calculating him, would never have made the charges advanced. No, he would have examined the facts thus—What means and resources I possessed when I entered on the administration, and what, when I applied myself to the duties I had done for the company. Then, if I had lessened the reserves or resources improperly, he would have shown me guilty of bad management; if I had greatly increased them he would have done me honourable justice, and not have calumniated me.—*Tynardreath, Cornwall.* THOS. COUCH STEPHENS.

PEPPER'S GHOST.

SIR.—I am surprised to find a communication from Mr. John Henry Pepper communicated to several of the daily journals stating that a certain party "is not the inventor of the so-called 'Pepper's Ghost,' which belongs to Mr. H. Dircks and myself." If this means anything, it is a simple declaration that "Pepper's Ghost" was the product of some invention made by the "Professor" and myself. And it is in this way, and by advertisements, placards, and newspaper paragraphs, that your correspondent has so far succeeded in throwing dust into the eyes of the public; but having himself admitted that he is not the inventor, he has eventually succeeded in persuading himself that organ blowers may rightfully share in the praise given to the performers; and assuredly under his system of logic every artist is greatly indebted to the carver and glider of his picture frames!

In 1858, at the meeting of the British Association in Leeds, I read a paper on "An apparatus for exhibiting optical illusions, illustrative of certain spectral phenomena." Reports of my invention, with engravings, appeared immediately after in the *Engineer*, *Mining Journal*, and *Mechanics' Magazine*, while the original apparatus was presented to Sir David Brewster. Several years having elapsed without the invention exciting attention, I informed my publishers, Messrs. E. and F. N. Spon, that it was arranging to have it brought out in a model form by a manufacturing optician. Some days after they named the circumstance to Mr. Pepper, then an entire stranger to me, who expressing a wish to see a model, one was sent to the Polytechnic Institution accordingly, which led to an arrangement for its adoption. As requested, I gave every instruction, and attended the setting up and the rehearsal, together with several of the lectures; the scene generally being a student of the Polytechnic skeleton. Now, it is important to notice here that my model was as strictly adhered to as possible, there being a large transparent mirror moveable in a frame,

SOCIETY OF ENGINEERS.—On Monday evening there will be a discussion on Mr. Ewing Matheson's paper on the Quality of Iron as at Present Used; and should time permit, a paper will be read by Mr. S. W. Worssam, Jun. on Mechanical Saws.

BRITISH MINES.

EAST SNAEFELD.—W. H. ROWE, Oct. 16: The 10 forehead looks very well indeed, and the lode is yielding good ore. On account of the open and unsettled

stopes in the roof of the 54 are not so good as we rise. The 70, driving south, has still a promising lode, 2 ft. wide, yielding detached lumps of ore, but nothing regular. We expect there is a more productive lode before us. The stopes in the roof of the 60 continue to be worth from $\frac{1}{8}$ to $\frac{3}{4}$ ton of ore per fathom.

week has improved. The lode in the winze sinking below the 20 mt. level has
a fine course of tin, worth 60¢. per fathom; the last 6 feet sinking has returned

over this amount; this is going down in unwrought ground, there being no level driven under it. The lode in the 40 ft. level, driving east, is improved, producing good stamps work, and the lode becoming larger, with better ground, a very promising point. The 30 fathom level is being driven east on the lode which is producing a little tin, but not to value. The men are engaged at surface fixing rods in from the engine to Lavine's shaft, preparatory to sinking it below the 20 ft. level. We hope to commence sinking in about ten days; this shaft will be sunk with all speed, as it will go down in good tin ground.

NEW WHEEL TOWAN.—R. Pryor, Oct. 16: The lode in the adit level driving west is 2 ft. wide, still in character to what last reported on. The end is set again to the deep adit shaft, and no time will be lost in communicating to it.

NORTH DOWNS.—F. Pryor, John Grenfell, Oct. 15: The following is the value of our two operations this day: The 60 west of King's, is producing stones of ore, and presenting such appearances as justify us in thinking it will improve shortly. A stop in the back of this level, east of the rise, is worth 8 ft. per fathom; there is another stop in the back of this level, and west of rise, worth 15 ft. per fathom. The 50 west of shaft, has recently improved, and is now worth 12 ft. per fathom; we have a stop in the back of this level (the 50), 4 fms. behind the end, worth 20 ft. per fathom. A short time will enable us to decide what level we shall resume above this, and more than probable put up a rise in order to make a level to drive back to meet the one we shall agree upon to drive thus opening the ground with as much expedition as possible. No other change.

NORTH LEVANT.—Jas. Bennetts, Jas. Thomas, Oct. 16: The 100 ft. level is driving east of Law's shaft, at 2 ft. 2 in. per fathom; the lode is worth 2 ft. 10 in. per fathom. The 80 ft. level is working at 1 ft. per fathom; a rise also in the back of the same, at 2 ft. per fathom; the lode is worth 2 ft. 10 in. per fathom. The 100 ft. level is driving west, at 4 ft. per fathom; the lode is poor. The stop in the back is working at 1 ft. per fathom; the lode is worth 10 ft. 10 in. per fathom. The 85 ft. level is driving east at 2 ft. 6 in. per fathom; the lode is worth 10 ft. 10 in. per fathom. The stop in the bottom are working at 1 ft. 10 in. per fathom, and are worth 2 ft. per fathom. The rise in the back of the same level is working at 3 ft. per fathom; the lode is worth 3 ft. 3 in. per fathom. The 70 ft. level is sinking at 1 ft. 10 in. per fathom; the lode is worth 3 ft. 10 in. per fathom. Stenack shaft is set to clear up below the 35 ft. level, at 1 ft. 15 in. per fathom. We have eleven pitches working on tributes, varying from 13 s. 4 d. to 18 s. 11 d.

NORTH POOL.—J. Vivian and Son, F. Clymo, Oct. 15: Middle Lode: 1. The 40 west of sump, the lode has become small, but we expect an early improvement. In the 40 east of sump, the lode is 1 ft. wide, composed principally of quartz, having a conical character for copper, and containing throughout patches of rich yellow copper ore, accompanied with white iron and blende; the two last-named ores have been and associated with large bodies of copper ore in this district. Ballarat Lode: In the 40 west of Ballarat shaft, the lode has much improved within the last day or two; it has been previously small, and unproductive of ore, but it has increased to a width of 1 1/2 ft., and a tolerably large proportion of it is now tinstone of good quality; should it continue to increase in size, and improve in quality, at the rate it has done in the last day or two, it will soon become a very valuable lode; it has also turned in its direction, and is now tending more rapidly than ever before to a junction with the middle lode.

NORTH RETAIL LACK.—G. R. Odgers, J. Harris, Oct. 12: We have no change to report in the No. 1 boundary shaft, or in the adit level north, on the No. 2 lode, since our last advice.

NORTH SHEPHERDS.—H. Bennetts, Oct. 17: The lode in the 50, west of engine-shaft, is of a very promising character; and in driving the last 3 fathoms the lode looks well; the lode is 2 ft. wide, embedded in a beautiful stratum for making deposits of lead, and if the lode continues we may expect a good improvement here shortly. The 3 fathom level cross-cut is pushed on with all vigour, but the lode is not yet in sight. Within the past few days we have met with several branches dipping towards the lode. Yesterday we met with another small branch, about 2 inches wide, which lets out water freely; this leads us to believe that when the lode is seen it will be of some value.

NORTH WHEAL CHIVERTON.—W. Hancock, Oct. 16: Since your last general meeting, the engine-shaft has been squared down and secured to the 80, or bottom level, plunger ground carried down, shaft and elster-plat cut, shaft eased and divided, footway and penthouses fixed, and a sum of 2 fms. set below the 80; we shall now have a more comfortable and safe descent, and all other work connected therewith; and on Monday next, if all be well, resume sinking the shaft for a deeper level, the same being in a most favourable channel of ground for sinking, and for the production of silver-lead. In the 80, west of Mew's shaft, this last two months we have been driving on the south part of the lode, which has been about 3 feet wide, composed of capel, flookan, mundle, quartz, and occasional stones of lead; thinking there was another part of the lode north, we put in a cross-cut in the extreme end in that direction 7 feet, and yesterday intersected a hard strong capel, with large quantities of lead in it; we shall see more of this in a few days, when we will advise you of its character, &c. We commenced sinking a winze in this level 7 fms. 3 ft. west of the shaft, and sunk it 7 feet, which has yielded from 10 to 12 cwt. of silver-lead; the present bottom of it is about the same value, and is suspended on account of the water. We shall proceed to sink another east of the shaft, 8 fms. or 16 fms. east of the former one, in a very promising lode, and get down as far as water will allow us, in order to somewhat prove the character of the lode here also. In the 80, east of old sump-shaft, from the 80 to 100 fms. level, the lode has been extended on the north part 9 fathoms, which has been of a most promising appearance; we have also driven east on the south part 4 fms., which produced blende and lead; during the last 3 feet it has greatly improved and will now produce for the part carried, 4 ft., 3 tons of blende per fm., with good lead mixed with it, and promises to improve for the latter; finding this part of the lode here most productive, we have suspended driving on the north part, and placed two of the men in this end. The drying-house is nearly completed for the men to go in; everything has been pushed on with the greatest vigour and economy, and no time shall be lost in getting down the shaft for another level, to prove this highly promising lode.

NORTH WHEAL ROBERT.—Wm. Godden, Oct. 17: The lode in the 62 ft. level, east of Murchison's shaft, is 4 feet wide, composed of capel, quartz, peach, prlan, mundle, and copper ore, a very promising lode. Not having yet reached the junction, I should strongly advise the cross-cutting north and south.

ORHAMPTON.—J. Richards, Oct. 16: We have had, during the past month, branches of spar, faced with mundle, which has impeded the progress. We have sunk 1 fm. 3 ft. 6 in., making the total depth below the 14 ft. level 24 fathoms. The ground is again showing evident signs of improvement, and the men are working well and spiritedly.

OKEL TOR.—J. Rodda, Oct. 17: The south lode, in the 80 east, is 2 ft. wide, of a very promising character, and producing about 2 tons of ore per fathom. The cross-cut south, at the 65 east, is progressing favourably. We have to-day met with a considerable increase of water, which indicates that we are near the part of the lode on which the winze is sunk from the bottom of the 50, nearly 14 fms., and, according to the appearance of the lode in the winze, which will yield 6 tons of ore per fathom, there is great reason to expect a considerable winze will be met with in the cross-cut in the course of a few days, especially as the winze is within 9 ft. of hoisting to the 65 ft. level. The lode in the 50 east, so far as seen, is 4 fms. wide, and I think we are nearly through it; it consists of a mass of quartz, peach, mundle, and some saving work for copper ore, and looking very promising. One of the stopes in the back of the 80, on the north lode, is improved, and will now yield 5 tons of ore per fathom. The other stopes throughout the mine are looking just the same as they have been for some time past.

OLD GUNSLAKE.—H. Rickard, Oct. 16: At Michael's engine-shaft the water is in the lode, and the men are now engaged in dividing and easing the shaft below the 21 to the 61, and the hauling up all spare pitwork—which is about 50 fathoms of new 9-inch drawing-lift—and to fix plunger-pole at the shallow adit for condensing water and other purposes, which, when completed, will make a saving in the costs of about 20 tons per month. We are stopping the bottom of the 21 fathom level cross-cut, in order to take up all the water, and bring it into the elster of our ty-plunger. We have cleared out the 21 west, on the course of the south lode, but have not yet commenced driving, but hope to do so some time next week. Everything is going on well so far, and the engine works about 3 1/2 strokes per minute to keep the water.

PEDN-AN-DREA UNITED.—Wm. Tregay, J. Thomas, E. Chegwain, Oct. 12: Sump: In the 140 east end the lode is worth 15 ft. per fm. In the 130 ft. level winze the lode is worth 8 ft. per fm., but we have some water at present to deal with, consequently we cannot sink so speedily. The 130 west end is worth 12 ft. per fm. In the stop in the bottom of this level the lode is worth 30 ft. per fm. The stop in the back of this level is worth 15 ft. per fathom. In the 120 west the cross-cut south has intersected some branches, producing stones of tin. In the 100 east rise the lode is worth 6 ft. per fm.; in the 110 east end the lode is worth 5 ft. per fm. In the 110 east end the lode is worth 10 ft. per fm. The lode going down below the 110, behind Cobler's shaft, is worth 16 ft. per fm. The pitches in the 110, west of Cobler's, which had fallen off in value, are again looking better, and promising improvement. In the 90 north nothing of any importance intersected since last report. In the 90, west of cross-course, the lode is worth 8 ft. per fm. No other change to report.

PENHALE WHEAL VOR.—Wm. H. Martin, Oct. 16: We are pushing on with all speed the changing of the pitwork and sinking Hollingsworth's engine-shaft below the 74 ft. level, and a elster. The ground in the 74 cross-cut, driving south to cut Penhal's main lode, is favourable for progress. The lode in Sanford's shaft is without change since last report. The south lode in the 26, west from Batty's shaft, is 9 inches wide, producing some good stamping work. The tributes are earning fair wages. Penhal Lode: At Holroyd's shaft we have cleared the stuff and taken up the old solar, and the men are engaged collaring the shaft. I have purchased surface rods, also balance and fend-off bolts, and the masons will next week commence the erection of bob-pit, stands, walls, &c. We are making very good progress with the whole of our work. All the machinery is working well.

PENHALE.—S. Bennetts, W. Higgins, Oct. 12: The lode in the 60 east is of a promising character, and producing some good stones of tin, but, being near one of those "gossans," is irregular. The 60 west is slightly improved. The 50 west, on new lode, is without alteration; the rise above this level is worth 13 ft. per fathom; the rise on the east side of the cross-course is worth 8 ft. per fathom. The water is forked nearly 6 fms. below the 20 in the old Pink Mine. Our progress in clearing the old adit has lately been slow, owing to the distance we have to remove the stuff, but we are shortly expecting to get on with one of those adit shafts, which will greatly facilitate our operations here.

PRINCE OF WALES.—J. Gifford, W. Gifford, Oct. 15: Watson's shaft is progressing very favourably. In the 55 cross-cut north the ground is favourable for driving, and is still letting out much water in the present end. In the 55 east the lode is 3 feet wide, worth 18 ft. per fathom. The stop in the back of this level, east of winze, is worth 12 ft. per fathom; set to six men, at 5 ft. 5 in. per fathom. In the 55 west the cross-course, on which we are driving, is worth 12 ft. per fathom. The stop in the back of the 55, west of cross-cut, is worth 40 ft. per fathom; set at 4 ft. 5 in. per fathom. The stop in the back of the 45 east is worth 15 ft. per fathom. The rise in the back of the 45 west, between the two parts of the western cross-course, is worth 9 ft. per fathom. We are pushing on the rise in the back of the 45 east, as also the new shaft, so as to communicate as soon as possible. We are making every possible progress in getting up the win engine-house, but owing to the heavy rains we are not able to make the progress we would wish.

Oct. 16: In the 55 west we have cut the north part of the lode, which is composed of capel, with copper ore intermixed; the lode altogether is 14 ft. wide, but we cannot say anything of its value before taking down some of it. No change in any other part of the mine.

PROSPER UNITED.—J. Nicholls, Oct. 9: The lode at the 100 in each end is 3 ft. wide, containing stones of ore, but not sufficient to value. The 90 west is unproductive. The stopes in the back of this level are worth 12 ft. per fathom for tin. The 50 east, on Gwallon lode, is producing occasional stones of ore.

The 80 ft. level stopes are worth 8 ft. per fathom. The 70 east, on Gwallon lode, is producing stones of ore. The 70 ft. level stopes are worth 8 ft. per fathom. The 60 west is worth 7 ft. per fathom for tin, and looking very promising. The 60 fathom level east is worth 1 ton of copper ore per fathom, and improving. The 60 ft. level winze is producing 1 ton of ore per fathom. The 60 ft. level stopes are worth 9 ft. per fathom. The 50 east is producing saving work for copper. The 50 ft. level stopes are worth 7 ft. per fathom. The 50 east, on cross-cut lode, is hard and poor. The winze in bottom of this level is producing 1 ton of ore per fathom. The stopes in the back of the 50 west are producing 1 1/2 ton of ore per fathom. The winze in bottom of the 50 west is producing 7 1/2 ton of tin per fathom. The 40 east is producing 1 ton of ore per fathom, and looking very promising for improvement. The stopes in back of the 40 are worth 8 ft. per fathom. No change to notice in any other part of the mine.

PROSPER UNITED.—John Nicholls, John Hall, William Glanville, Oct. 16: The lode in the 100 east contains occasional stones of ore. There has not been any lode taken down in the 100 west since last report. The rise in back of the 90 west contains stones of copper ore. The 90 ft. level stopes are worth 12 ft. per fathom for tin. The 80, east on Gwallon lode, contains good stones of ore. The 80 ft. level stopes are worth about 8 ft. per fathom. The 70 east is poor. The 70 ft. level stopes are worth 8 ft. per fathom for tin. The 60 ft. level stopes are worth 10 ft. per fathom. The 60 east is producing 2 tons of ore per fathom, and looking very promising. The winze in bottom of this level is worth 1 ton of ore per fathom. The 60 west, on the south lode, is yielding saving work for tin. The 50 east is producing 1 ton of ore per fathom. The 50 ft. level stopes are worth 7 ft. per fathom. The 50 east, on cross-cut lode, is without change. The winze in the bottom of this level is producing 1 ton of ore per fathom. The stop in back is worth 1 1/2 ton of ore per fathom. The winze in bottom of the 50 west is worth 7 ft. per fathom for tin. The 40 east is producing 1 1/2 ton of ore per fathom, and looking promising. The 40 ft. level stopes are worth 5 ft. per fathom. No alteration in any other part of the mine to remark on.

REDMOOR.—T. Taylor, Oct. 17: We are still pushing the two cross-cuts with full powers of men. There is no particular change since last report. We have a deal of mundle in the north end. The ground in the south end is good for driving, and letting out a deal of water.

RENNIE LAXEY.—W. H. Rowe, Oct. 15: The water not having decreased in the sump at the engine-shaft, and the men having again done badly (as far as wages are concerned), I have set the sump for the present month at 30 ft. per fathom, including drawing stuff to surface. The rise is still hard, and set to three miners and three labourers, at 17 ft. 10 in. per fathom.

ROSECLIFF AND TOLCARN.—R. Pryor, T. Gundry, Oct. 16: Setting Reports: The 50 fathom level cross-cut to drive north of Lindo's engine-shaft, by six men, at 5 ft. per fathom; this end will be pushed on as fast as possible, in order to commence opening on No. 3 lode, from which there is a large quantity of water coming; the appearance and character of the lode is all that can be asked for, with the exception of a course of lead. To rise above the 30, by four men, at 1 ft. per fathom; the lode is worth for blende and lead 3 ft. per fathom. The stopes west of rise, by two men, at 1 ft. 5 in. per fathom; the lode is worth 3 ft. per fathom for blende and lead. Our pay and setting went off satisfactorily.

ROSEWARRNE CONSOLS.—J. Nancarrow, R. Kuckey, Oct. 12: At the usual monthly survey, to-day, the following work was set:—The 80 to drive west of engine-shaft by three men and three boys, at 4 ft. per fathom; the lode in this end continues to look very well, we have driven 6 ft. in the ore, and the lode has varied in value, but has been worth on an average 20 ft. per fathom, which is its value in the end to-day; its appearance is healthy, and there is every prospect of the ore continuing, and also improving as we get near the cauter. The 70 to drive west by three men and three boys, at 5 ft. per fathom; the ground in this end is altered, and is now of the same kind as that in the 80; we begin to see a little ore in the lode, and the lode is improving very slightly, as in the two pits below. We have also set four pitches to eight men, at an average tribute of 18 s. 9 d. in 17.

ROYALTON.—T. Parkyn, Oct. 17: Everything is going on well; the stamps are kept working night and day, and the tin is coming out satisfactorily. I have men now cutting into the lode at the 25; our new lift is working well. Since I last reported on the mine we have cut a new lode close up to surface, containing rich work for tin, and I shall soon be able to cut into it at the 25. This is a most important discovery; I will report fully next week. We have had great floods of rain, and it has washed down a large quantity of rubbish in the open pit, but it has not interfered much with our operations, and has not done much damage.

SORTIDGE CONSOLS.—J. Richards, Oct. 17: In the 140, west of Hinchins's shaft, the lode is 20 in. wide, composed of capel, quartz, mundle, prlan, and copper ore of good quality. In the 140 east the lode is 18 in. wide, and yields good stones of ore.

SOUTH CONDERROW.—J. Vivian and Son, Wm. Williams, Oct. 12: King's shaft is now 5 fms. below the 100 ft. level; the lode is 2 ft. wide, composed principally of quartz and flookan, and passing down into a white stratum of granite, which we hope will prove more congenial for metal than the rock which we have been passing through for some time. In the 71, west of King's shaft, there is no alteration worthy of notice. In the 61, east of King's shaft, the lode is 2 feet wide, composed of flookan and quartz, with a large infusion of red oxide of iron and some native copper; in the same level north, on the cross-course, there is no alteration to notice. In the 61, west of King's shaft, we have been cross-cutting south in search of more lode, and have to-day touched a south part of the lode, which is of a more favourable character than the part we have been driving on, having more of the composition of the lode in the level above, just where the copper ground was met with. In the 51, east of King's shaft, the appearances are more favourable for copper than they have been for some time, and the lode appears to be increasing in size. In the 51, west of King's shaft, the lode is 2 ft. wide, presenting a very favourable appearance, and producing stones of good black and grey copper ore. The stopes in the back of this level, east and west of the winze, continue to produce copper ore, worth 15 ft. per fathom.

SOUTH DARRIE.—J. Boudry, October 12: There is nothing new to report throughout the mine this week, the different points being equal in value as last reported. We are at present engaged in clearing the stuff from the air-shaft, and I hope to have it clear to the 50 by Tuesday next.

SOUTH WHEAL GRENVILLE.—G. R. Odgers, Wm. Bennetts, Oct. 12: The shaftmen have been engaged this week putting in the skip-road from the 20 to the 30 ft. level, and, consequently, there is no change to report in the lode at the 35 since our last advice. The lode in the 30 east is 10 in. wide, composed of quartz and iron. The lode in the 20 east is 10 in. wide, and is a two-part lode—the south one is 6 in. wide, containing stones of ore and mundle, and the north one 15 in. wide, composed of quartz, &c.

SUMMER HILL.—W. Wasley, Oct. 17: The men are making good progress in driving the main level west of south from the cross-cut from Hale's shaft; the end is worth at present full 18 ft. per yard (driving at 30 s.). The air being very dead in the mine, I took the men from the cross-cut mentioned in my last report, and put them to rise towards some old workings from No. 4 shaft, and am glad to say I have got a considerable quantity of water, which will be of great use, and shall not be able to put in air-pipes, to drive the main level to a considerable distance. I expect the carts will take off the last of the 20 tons of ore sold last Thursday, to-day, and I am glad to say that we have 12 tons more drawn, and in the course of dressing, which I hope to get on with quickly now, as we have plenty of water.

ST. IVES WHEAL ALLEN.—John Nancarrow, Joshua Daniel, Oct. 16: The Carbona lode is again making east, and seems to be rising a little; it is now worth 9 ft. per fathom. The lode at Richards's is just the same as last week, and is worth 4 ft. 10 in. per fathom. The men are now engaged in timbering the east shaft, and will resume the clearing as soon as it is secured.

VIGRA AND CLOGAU.—J. H. Holman, Oct. 17: Since last report a few good stones with visible gold have been broken in the No. 4 stop, east from No. 4 sink, in No. 2 mine; the lode generally from top to bottom of the stop is enlarging, and looking well for an improvement as the stop is carried forward. In the western side of the sink there is a very good prospect of visible gold, as the shoot cut in the sink is dipping in that direction; a drive will be commenced upon it, to meet the lode, and the end of which is now 2 fms. from the top of the sink, and is widening out rapidly, with great improvement in the appearance of the quartz. There is undoubtedly good ground between the two sinks, but the lode is very arid, which renders progress slow. The end of the 5 ft. level, west from No. 5 sink, has also very much improved, and the lode is widening out again, after being somewhat pinched. The end is 6 or 7 fms. from the western side, and from the dip of the bearing rock there is a good prospect of shortly cutting another shoot of gold in this level. The No. 3 stop, in the back of the No. 2 adit, is in a promising lode, although more contracted than at a lower level; the lode of the stop is a short distance east from the point where good visible gold was cut 6 fms. higher at surface. In the stop under No. 1 level there is a fine piece of ground to be taken down under the hanging wall, which will yield good stamps' work, and very probably lead to some good bunches of gold, which in this part make quite under the hanging. The stop east, at the bottom of No. 1 shaft, is improving very much, as the lode is widening out very rapidly as it descends; if this widening continues, a further extension of the gold formerly met with in the sink may be expected. At the surface stop there is very good mineral, and the lode is being taken down to get at a good bunch of ore at day; the lode of the stop is a short distance east from the point where good visible gold was cut 6 fms. higher at surface. The general improvements in the ends and stopes throughout the No. 2 mine, leads to the belief of some good discoveries very shortly to be made. At the No. 1 mine there is a powerful branch of very good looking quartz inside the hanging wall of the lode, which limited the great bunch of gold formerly cut in the same locality; the men are now taking down the top rock, to get at the branch in question. At the Old Clogau Mine, and at the Vigra Mines, the works continue as usual, and there is nothing new to report.

WEST CWM ERFIN.—Oct. 16: The lode in the deep adit level, east of engine-shaft, is 4 feet wide, containing spar, blende, and clay-slate, with a little ore at times—a very kindly lode, and we may fairly expect to get into a good bunch of ore at day; the lode of the stop is a short distance east from the point where good visible gold was cut 6 fms. higher at surface. The general improvements in the ends and stopes throughout the No. 2 mine, leads to the belief of some good discoveries very shortly to be made. At the No. 1 mine there is a powerful branch of very good looking quartz inside the hanging wall of the lode, which limited the great bunch of gold formerly cut in the same locality; the men are now taking down the top rock, to get at the branch in question. At the Old Clogau Mine, and at the Vigra Mines, the works continue as usual, and there is nothing new to report.

WEST GOLDFIELD.—Joseph Vivian and Son, John Pope, Jun., Oct. 16: Hope Lode: The 15 east of Paul's, has improved in size and appearance, being now 20 in. wide, producing tin-stone of moderate quality, and likely to improve still further. The stop in the back of the 15, west of Paul's shaft, is worth 7 ft. per fathom. In the 8, east of Paul's shaft, the lode is 20 in. wide, worth 7 ft. per fm. The new shaft has been communicated to the 8 ft. level, and we have commenced stopping the back of the lode, which is about 7 ft. per fathom; price for stopping, 15 s. per fathom. The stopes west of Paul's shaft, in the back of the 8 ft. level, are without alteration worthy of particular notice. In the shallow adit, driving west from the cauter, the lode continues to produce tin, and to present the same highly favourable appearance which it has hitherto done. Caunter Lode: The stopes in back of the deep adit level south, east of Charley's shaft, are worth 8 ft. per fathom; price for stopping, 11 ft. per fathom. The winze sinking below the shallow adit is laying open a lode 2 1/2 ft. wide, worth 4 ft. per fathom, which will stop at about 10 ft. per fathom. We are making good progress in preparing for the next sale of tin, and, on the whole, the mine looks well.

WEST GREAT WORK.—S. J. Reed, Oct. 16: The shaftmen are still engaged cutting through the lode in the 50, where it is worth 10 ft. per fm. The 40 east is worth 8 ft. per fm. In this level west the lode is 3 ft. wide, worth 15 ft. per fm. Two stopes in the back of this level are worth respectively 7 ft. per fm. The lode in the 30 east is 2 1/2 ft. wide, worth 13 ft. per fm. The winze in the bottom of this level is worth 5 ft. per fm. The 20 east is opening tribute ground. A rise and stop in the back of this level are worth on an average 5 ft. 6 in. per fm. In the 8 west the lode has improved, and we are entering apparently on a new dip of tin ground; the lode is 1 1/2 ft. wide, yielding good work for the stamps. Our

tribute pitches continue to yield the usual quantity of tin, and the mine generally is opening out well, with every prospect of a continuance.

WESTMINSTER.—F. Evans, Oct. 16: The lode in the 50 west is improved in appearance; it is now 4 feet wide, a strong lode, and producing 12 cwt. per fm. No particular change has taken place in the 80 east; the lode is 2 ft. wide, producing saving work, and letting out water freely. We anticipate reaching the ore ground in this level shortly, and then to have a long length of it. The increased quantity of water will compel us to drop down another lift of pumps to this level. Thompson's shaft is about 7 fms. 2 ft. below the 70; the lode is from 4 to 5 ft. wide, and ore; it has an improved appearance, and will be of value shortly. The rise in the roof in the 70 east is worth 14 ft. 10 in. per fathom. The pitches throughout the mine continue the same as reported for some time past. Ebury Mine: The lode in the shaft is very promising, the ground is rather hard, and will be so for a short time longer, as we are in a bar of ground that heaves between the deposits of ore.

WEST ST. IVES.—T. Uren, Oct. 16: Since I last wrote you the horse in the lode is declining, but not so fast as I expected. There are good branches of tin and copper running through it; it is looking so favourable for mineral that I fully expect a good lode at the point. Looking at the present decline of the horse, a small distance driving will get through it.

WEST PRINCE OF WALES.—J. Gifford, Oct. 15: The lode in the south engine-shaft is 2 feet wide, composed of flookan and gossan of a very kindly appearance. In the deep adit, on the south lode, the lode is 2 1/2 ft. wide, composed of flookan, quartz, and gossan; driving at 4 1/2 s. per fathom. We are getting on with all possible speed, and hope to set it to work sometime in the beginning of November.

WEST WHEAL KITTY.—W. Vivian, Oct. 16: In the deep adit end, west of middle shaft, the lode is about 3 ft. wide, when last taken down worth 3 ft. per fathom. In the middle adit end, west of western shaft, we have commenced to cut through the lode, which is of a promising character, but as to size or value we cannot say. At the shallow adit level we have commenced to cut through the lode; this lode has a much better appearance than it has had for some time past. The stopes in the back and bottom of the middle adit level are producing tin of moderate quality.

WEST WHEAL TOLGUS.—Oct. 16: The ground in Taylor's engine-shaft, sinking below the 85, is a good looking killas, and the men are making good progress in sinking. The lode in the 85 west is 2 feet wide, but is unproductive; and in the 85 east the men are rising by the side of the lode. The lode in the 75 west is 2 feet wide, producing good stones of ore—a promising looking lode. In the winze sinking below the 75 west the lode is 4 feet wide, producing some good stones of ore, but it will not amount to 1 ton of ore per fathom. We have five stopes over the back of the 75, and one stop over the back of the 85 working by 30 men, at an average price of 3 ft. 10 in. per fathom; the average yield of each stop is 3 tons of ore per fathom. The lode in the 65 is 3 1/2 ft. wide, producing 1 ton of ore per fathom; this level has a good appearance, and we are daily expecting it to improve. The lode in the 50 west is 18 inches wide, consisting of spar, killas, and is producing stones of ore. The men are getting on pretty well in sinking Richards's shaft below the 15, which is thus far quite dry. The engineers are making good progress in fixing the engine.

WEST WHEAL TREMAYNE.—S. Roberts, Oct. 15: The lode in the 20 end is so good as last week, it being split by a horse of killas into two branches; they yield a little ore, and we think that in a short distance driving they will be together again.

WHEAL BULLER.—Jas. Inch, Jas. Brown, Oct. 16: Stevens's Shaft: The 92 east, on the south part of the lode, is worth for tin 3 ft. per fathom. The 92 west is poor. The 80 east is still in elvan—poor. The winze sinking under the 80 east is worth 30 ft. per fathom. The lode in the 80 west is worth 15 ft. per fathom. No stop in the back, worth 30 ft. per fathom. No stop in the 15 ft. per fathom. The 70 end is looking more kindly for tin. The 60 west, on the north branch, is producing good stones of copper ore—Hocking's Shaft: The 80 east is poor. The 70 west is worth 25 ft. per fathom. The winze sinking under this level is worth 15 ft. per fathom. The stop under the 60 is worth 24 ft. per fathom. Kistie's Shaft: We have cleared the 100 west; the lode in this end is large, hard, and poor. The stop under the 80 is worth 35 ft. per fathom. The pitch in the 100 east from the mine are producing their usual quantity of tin.

WHEAL CREBB.—J. Gifford, Oct. 15: In the 120 west, driving by the side of the lode, there is no change to notice. In the 108 east, on the north lode, the lode is 1 1/2 ft. wide, yielding stones of copper ore, but of no value. In the 108 east, on the south lode, the lode is 2 ft. wide, yielding saving work for dressing. In the cross-cut south, in the 96 west, the ground is favourable for driving. In the 84 east the lode is 2 ft. wide, yielding stones of copper ore—a kindly lode. No change in the tribute department since last report.

WHEAL GRENVILLE.—G. R. Odgers, W. Bennetts, Oct. 12: Old Lode: The lode in the 100 east from the engine-shaft, is split into branches; this was the case at all the upper levels just above this place. The lode in the 110 east is 15 in. wide, with stones of ore embedded in a friable quartz, and having a very promising appearance. New Tin Lode: The men are making good progress with the sinking of the new shaft; the lode is 3 ft. wide, composed of quartz, gossan, and flookan, containing a little tin, with malleable copper; this latter we think proceeds from the cauter, which we find continues in the eastern end of the shaft; the ground here is of precisely the same kind of granite as accompanied the cauter, and the lode is a good feature for this lode making east. The lode in the 100 east continues fully 4 1/2 ft. wide, a good bunch of ore, and worth as much as we valued it on Thursday—from 70 ft. to 80 ft. per fathom. In the 90 ft. level cross-cut, driving north, we have discovered a branch 4 in. wide, dipping north, and which we hope may prove to be a dropper to a lode near at hand; the ground has changed. The pitches, on the whole, are looking much the same, and we believe the men are earning fair wages. In a pitch at the back of the 66 we have discovered a bunch of ore, which appears to be making off in the 66, but which we shall be able to speak more fully in our next. G. R. Odgers, W. Bennetts, Oct. 17: We cannot see any change calling for a remark since our last advice.

WHEAL KITTY (St. Agnes).—W. Polkinghorn, S. Davey, Oct. 12: In the 82, driving west of Holgate's shaft, the lode is producing a little tin. New Shaft, Pryor's Lode: In this shaft, sinking below the 82, no change has taken place worthy of remark since our last week's report. In the 82, driving west of this shaft, the lode is 2 1/2 ft. wide, worth for tin 12 ft. per fathom. In the 82, driving east of shaft, the lode is worth for tin 14 ft. per fathom. In the 65, driving west of shaft, the lode is worth for tin 10 ft. per fathom. The lode in the 65, driving below the 65, east of shaft, is 2 ft. wide, worth for tin 15 ft. per fathom. The winze sinking below the 54, west of shaft, the lode is worth for tin 15 ft. per fm. In the 44, driving east of shaft, the lode is yielding stones of tin. Caunter Lode: The lode in the winze sinking below the 65, is worth for tin 18 ft. per fathom. Vottle Lode: In the 24, driving east of cross-cut, the lode is small, and at present not to value.

WHEAL KITTY (Uny Lelan).—W. Rosewarne, Oct. 17: South Ruscoe Lode: The lode in the 80 west shaft, sinking below the 30, is worth for the length of shaft 3 ft. 9 in. per fm. The lode in the 30, east of the shaft, is worth 8 ft. per fm. The lode in the 30, west of the shaft, is worth 8 ft. per fm. The lode in the 20, east of the shaft, is worth 3 ft. per fathom. New Lode: The lode in the 140, east of the cross-cut, is worth 3 ft. per fathom. The lode in the rise in the back of the 140 east is worth 7 ft. per ton. North Ruscoe Lode: The lode in the 150, east of No. 2 winze, is worth 4 ft. per fathom. The lode in No. 3 winze, sinking below the 140, is worth 18 s. per fathom for the length of the winze (9 fms.). North Gossan Lode: The lode in the 50, west of Rogers's shaft, is worth 3 ft. per fathom. No other alteration to notice.

WHEAL MARY HUTCHINS.—Wm. Edwards, Oct. 17: I am pleased to state that the mine still continues to open out well. We sold on the 10th inst. 3 tons 19 cwt. 2 qrs. 7 lbs. of tin, at 57 s. 2 d., realising 227 l. 5 s., the produce of September. Our stamping and dressing is progressing very satisfactory, and expect to sample again in the course of a fortnight.

shaft. The stopes in the different levels throughout the mine are looking exceedingly well. Two speculative cross-cuts are being driven, one in the 70 south of Hawke's, and one in the 60, north of Susan's; no lode or branch of any value has been cut in either of them. Batters' shaft is sunk to within 2 or 3 fathoms of the 100, and will be complete for drawing purposes to the 70 in about a fortnight. Glubb's shaft, which is 84 fms. further west is down to the 60, and no doubt will be forced with all possible vigour, as these shafts are of the greatest importance for the development of the western part of the concern. The machinery on the mine is of the best description, suitably applied, and of power enough to work for many years to come. The dressing-floors, also, are well laid out, considering the situation for the most economical and effective working. In reviewing the mine, you will find my foregoing remarks on the different points in operation have not been very comprehensive, but merely an outline of the workings, the ground is moderately easy for progress, and the working may be extended at a rapid rate, but will require very strong timber to make it secure, which is expensive. The lodes, so far as developed, have been exceedingly rich, and I see no falling off at present. The reserves in the mine will pay the present dividends for years to come, and the lode in the 110, where cut into, is equally rich, and will greatly add to the value of the property. The western shafts (Batters' and Glubb's) will require no great length of time to complete for ventilation, and the more efficient discharge of the stuff. The sett in this direction is extensive, and I have no reason to believe but that the lodes may be found equally productive in it. In conclusion, to lay out such a mine must necessarily incur a heavy expenditure. I am pleased to bear testimony to the efficient and miner-like way in which the mine has been laid open.—WILLIAM PASCOE.

THE JAVALI MINE.—We are informed that this magnificent property, of which our readers have heard so much, and which appears to be so deservingly popular, may probably be ere long brought out in the form of a joint-stock company. A circular has been addressed to the shareholders of the Central American Association by their directors, asking them in case this was done how many shares they are prepared to take in the new Javali Company. The response seems to have been so favourable that the outside public will probably come in for but a small share in the capital of 50,000 shares (of 2l. each), as already nearly one-half have been applied for in writing by the Central American shareholders. We are not surprised at the result, or there never was a mine which has so steadily gone up in public estimation as the Javali. Every report, never mind by whom or from whence it comes, confirms all that has been said about its riches. Its reputation has never been assailed by the faintest whisper, and it comes before the public with the full bloom on.

CHONTALES.—By the advice to hand on Monday the directors received the intelligence that some further cases of cholera had occurred amongst the native miners, the temporary result of which was that the mines were without hands to carry on the necessary operations. This appears to have caused great disappointment to everyone connected with the mines, but it seems that the medical officer and the Europeans were taking every possible sanitary precaution to repress the epidemic. It is stated that the surrounding districts, which were previously affected, are now entirely free from its ravages. The progress of the works and the remittances of gold depend in a great measure upon the natives returning to their employment. The mines remain as they were, while the machinery erected is ample to produce returns at least sufficient to meet the costs. By this unfortunate visitation, which could neither have been foreseen nor averted, nearly all the mines in the district are idle for want of hands.

MINING IN VICTORIA.—Contrary to all recognised rules on the subject, mining experience in Victoria may be reduced to a science in a commercial sense. The results of gold mining may be so regulated as to give regular returns quite as easily as a well-managed mercantile enterprise, but with the chances of making much greater profits. The experience in California and Australia shows that gold occurs in veins with much greater regularity than the baser metals, while the value of the produce from gold mines is without fluctuation. There are immense areas of unoccupied ground in Victoria, so that a company with a large capital might easily obtain mines in various parts of the colony. The fact that the average cost of mining for gold is as nearly as possible three-tenths of the average yield from the mines, when properly managed, gives an additional assurance that mining could be successfully conducted upon a similar principle to that of a commercial establishment with several branches, for while some gave large returns others might be worked at a loss, yet the aggregate result would be satisfactory. As an instance of the returns realised by some of these mines, it may be mentioned that at the Band of Hope Company's washing the handsome amount of 1637 ozs. of gold was produced in one day. A nugget weighing 57 ozs. was found in the Sons of Freedom claim. A fine specimen was found at the Pound Rush, Amherst, weighing 36 ozs., and containing about 30 ozs. of gold. The total gold exported this year amounted to 1,193,623 ozs., of which 170,755 ozs. were from New Zealand.

LEAD MINING IN CARMARTHENSHIRE.—The Llwynalenig Lead Mines are situated about six and a half miles from Carmarthen, and within one and a half miles of the Llanpumpains station, on the Carmarthen and Cardigan Railway. The present lease, which has nearly 19 years to run, is held at a royalty of 1-14th and renewable for 21 years without premium. The lode is about 2½ ft. wide, running about 48° south of east and north of west; it is well defined, and composed of a soft friable quartz, with carbonate of lime and fluorine, in which are found specimens of rich silver-lead ore. The rock in which these lodes are embedded is of a highly mineralised character, being composed of clay-slate, the stratification of which is very perfect. Several other lodes can be seen cropping out on surface, which when intersected at the adit level will probably show good results.

WEST CHIVERTON.—In another column will be found a special report upon this property by Captain William Pascoe. The lode or lodes are described as being very singular in their formation, and although they are termed three, in Captain Pascoe's opinion it is only one lode, or it may be designated a belt of metalliferous rock. As in some places it is of a great width, and contains several branches of lead ore in such mineralised ground, he considers that cross-cuts should be driven through it at intervals of not more than 10 fathoms. Captain Pascoe has seen many lead mines in South Wales and elsewhere, but has never seen such a rich lode, nor for such an extent, as that in West Chiverton. Looking at the present depth of the mine, and the great extent of unexplored ground to the west of Glubb's shaft, Captain Pascoe is of opinion that West Chiverton is yet in a state of embryo.

WHEAL CROFTY.—We are informed that Mr. Pryor does not intend to bring this mine before the public until he has put everything in a proper position, so as to enable any party to have the mine thoroughly inspected previous to their becoming shareholders. It would appear that, judging from the situation of the mine, and of the various well-known and productive lodes which pass through the sett, with other advantages, that such an opportunity rarely offers for the investment of capital. There is an engine, and all other necessary materials, on the mine, when required to work, but up to this time the water has been drained by other means, thus saving all water charges, and enabling Mr. Pryor to drive the 24 ft. level below the adit, to reach a course of ore said to have gone down in the bottom of the deep adit, on the Copper Tankard lode. Large quantities of ore have been raised in the deep adit, and no level driven under it. This point was formerly worked by keeping the water by manual labour, but Mr. Pryor does not intend following the example, which he says is too frequently the fashion where tin supersedes copper, by following the deepest and most expensive points of operation, and neglecting shallow levels and parallel lodes in such a well-known district as this. It is an admitted fact that shallow levels make the most profit, and should, therefore, be worked with a view to assist in exploring deeper points of operation. A lease has been granted to Mr. Pryor by Mr. John F. Basset, of Tehidy, for 21 years, on his usual liberal terms.

MINING AND ITS PROSPECTS.—(From Peter Watson's "Weekly Mining Circular and Share List," No. 446, Vol. IX.)—"A 1 per cent. panic. Does 'the oldest inhabitant' ever remember such an accumulating glut of unemployed capital, and yet such an utter stagnant condition pervading all stock and share markets? The obvious enquiry is—What can be the cause? The reply, of course, is an absence of confidence. But the common mistake made during a period like the present is that enterprises, however *bona fide* and remunerative, are as much neglected as those which possess in their inception the elements of their own dissolution—the 'corn' is not separated from the 'tares,' and thus the profitable and the profitless are equally disregarded. During this week something like 5,000,000l. has become payable in the shape of dividends upon the Fandion in addition to which the influx of gold to this country continues. The lethargy among the investing public has been ascribed by some to be due in a great measure to the season of the year at which the reins of business are relaxed, but whether this assumption has any foundation in fact will soon be proved, as the ensuing fortnight will terminate the holidays. There are certain stocks and miscellaneous shares in sound enterprises which can be purchased at a panic price; and, as soon as the investor begins to operate, and but a comparatively small amount of stock is taken off the market, there must be of necessity a very important advance in quotations. But to no description of enterprise is this more applicable than to Cornish and Devon mines, as during the last twelve months the price of tin has advanced some 14l. per ton, thereby proportionately increasing the profits; and it is not too much to expect that at least an equal advance will take place during the ensuing twelve months. The price of copper may be considered at its lowest, while that of lead remains firm, with an upward tendency. As yet, however, the market value of mine shares has not responded in an equal ratio to the actual or prospective improvement in the value of their produce. At the present time an interest can be purchased in many really good mines for a merely nominal sum, in which the liability is not only exceedingly limited, but determinable at any period; while, on the other hand, a large and permanent profit may be realised upon a further development of the properties."

* With last week's Journal we gave a SUPPLEMENTAL SHEET, containing the report on the Apparatus and Processes of the Art of Mining and of Metallurgy shown at the Paris International Exhibition, prepared by order of the Committee of Council on Education, by Prof. Warrington Smyth, M.A., F.R.S.; Foreign Mining and Metallurgy; Reports on Foreign Mines—Alamillos, Linares, Fortuna, and Pontgibaud; Ice in Deep Mines, &c.

The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, OCTOBER 18, 1867.

COPPER.		IRON.		Per ton.
Best selected, p. ton	£ s. d. 79 0 0	Bars Welsh, in London	6 10 0	—
Tough cake and tile	77 0 0	Ditto, to arrive	6 10 0	—
Sheathing & sheets	81 0 0	Nail rods	7 0 0	7 10 0
Boils	83 0 0	Do., in London	7 10 0	8 10 0
Bottoms	85 0 0	Bars ditto	7 10 0	9 10 0
Old (Exchange)	70 0 0	Hoops ditto	8 10 0	9 12 6
Burra ditto	70 0 0	Sheets, single	9 5 0	10 0 0
Wire, per lb.	1 0 0	Pig No. 1, in Wales	3 15 0	4 5 0
Tubes	0 11½ 0	Refined metal, ditto	4 0 0	5 0 0
		Bars, common ditto	5 15 0	6 0 0
		Do. mch. Tynes	6 0 0	6 10 0
		Do., railway, in Wales	5 10 0	6 0 0
		Do., Swed. in London	5 10 0	10 10 0
		To arrive	10 5 0	10 10 0
		Pig No. 1, in Clyde	2 15 0	3 1 6
		Do. f.o.b. Tynes	2 9 0	—
		Do. Nos. 3, 4, f.o.b. do.	2 6 0	2 9 0
		Railway chairs	5 10 0	5 15 0
		" spikes	11 0 0	12 0 0
		Indian Charcoal Pigs,	7 0 0	7 10 0
		In London p. ton.	7 0 0	7 10 0

* At the works, is. to 1s. 6d. per box less.

† A Derbyshire quotation: not generally known in the London market.

REMARKS.—The Metal Market during the past week has not presented any new feature of interest, nor given signs of any speedy return to activity and vigour. There is certainly rather more enquiry than there was, and we still entertain hopes that business is slowly mending, and think it will be found that gradually a better state of things is approaching, when commercial affairs will again resume their wonted animation. The aspect of political affairs in Italy is just now by no means encouraging, and the attempts made by certain parties to obtain possession of Rome for the capital of Italy seems likely to produce a state of things most undesirable, as France appears by no means disposed to be a quiet spectator of the proceedings now going forward; and should the Emperor send an army to support the Pope (as it is stated he will do), there is no saying to what this step may lead. Should the proceedings, however, be confined to Italy, it is not likely to have any serious effect upon business, except so far as that war always more or less acts injuriously upon commerce, and tends to injure that confidence without which business is sure to flag and become inanimate. The prices of metals have not generally undergone much alteration during the week, although in the case of some they appear to be a little firmer, and sellers do not appear quite so ready to meet buyers as they were a short time since. This is in itself a good sign, and we shall be glad to find it holding good in the cases of all metals, which have now for some time been at a point much lower than the average, and not such as to be generally remunerative.

COPPER.—The market for this metal has remained very quiet during the week, and no transactions of importance have taken place; prices however are, if anything, a trifle firmer. Advances from Chili report charters to this country of ore and regulus equal to 1050 tons, and of copper 350 tons, since which Chili bars have been sold at 70l., and Chili ingots at 77l. 10s.

IRON.—In Staffordshire the trade is not very lively, but the demand to meet immediate wants is pretty good, and the works are doing not much less than three-fourths their ordinary full production. The East Indian Railway Company is inviting tenders for about 750 tons of best Staffordshire iron, and the Indian Government are also advertising for best British iron. In Welsh the quarterly meetings of the trade are now over, and upon the whole, more orders are reported to have been given out than at the commencement of last quarter. Home consumers are beginning to enter the market more freely, and although as yet they are only small purchasers, yet there is good ground to believe that before the close of the year business will be done on a larger scale. Last month the total exports reached no less than 17,878 tons. The Russian trade is now fast drawing to a close, but it is expected in the spring of next year there will be large shipments again to that country. In Swedish iron the demand is not quite so active, importers, however, continue very firm in their prices, and are not disposed to make any concessions. In Scotch pig-iron there has been more animation in the market than there has been for some time, and an extensive business has been done in warrants, and prices gradually advanced to 55s. 3d. cash.

LEAD remains rather quiet, and without extensive transactions; prices, however, continue firm, and in some cases even a trifling advance has been asked.

TIN.—The market for Straits has become rather steadier, and a somewhat better business has been done. Transactions at the commencement of the week took place at 89l. 10s. cash, but more recently business has been done at 90l. cash, and 91l. for arrival, and holders are still disposed to ask even higher prices, and the tendency of the market is certainly favourable to sellers. English also is better, and is not so readily obtained under official rates.

SPELTER.—A much better business has been done during the week, and the price on the spot remains very firm at 21l. 10s. Sales have also taken place for January delivery at 21l. 12s. 6d.

TIN-PLATES are in tolerably good request, and the resolution to adhere to last quarter's quotations has given general satisfaction. **STEEL** is in rather better demand.

QUICKSILVER.—A fair business doing.

BIRMINGHAM, OCT. 18.—Rylands' "Iron Trade Circular" says—Business flat; pigs steady. Bars weaker. Finished iron quiet.

LIVERPOOL, OCT. 17.—Messrs. Knowles, Gorst, and Riso write:—Copper: This week's transactions are very trifling; buyers supplied themselves fairly last week, chiefly at 68l. for Chili bars, now 70l. is asked, and has been paid, but the market cannot be called strong at this figure, though the last mail was a light one. Tin has dropped, but in the past few days an improved feeling has been shown. Buyers will, we think, soon have to pay much higher prices for this metal, unless an European war should check the advance we look for.

MIDDLESBOROUGH, OCT. 17.—The "Iron Trade Review" states:—The Cleveland Iron Trade still presents stiffening of prices. Stocks continue to decrease. Warrant stores have gone down from 73,665 tons last week to 73,317 tons in the present week. Shipments coastwise to Scotland and Wales are now heavy; to the Continent less extensive. The manufactured iron trade is scarcely looking so promising, especially in plates. Rail-mills are fairly occupied.

At the North of England and Cleveland Ironmasters' quarterly meeting, Mr. T. Greener, of Darlington, invited the attention of the trade to a model of Morgan's Puddling Machine, which he described in detail. This apparatus consists of a vertical shaft, worked by bevil gearing, and entering the roof of the furnace at the centre of working part. This shaft is kept constantly revolving when the iron is in a liquid state. At the bottom of the shaft is an arm furnished with four fangs, each one capable of doing the work effected by the ordinary puddlers'

rabble. A rack and pinion, worked with a balance weight are employed to raise rabble through an opening in the roof, when the iron is ready for being balled up. In adopting existing furnaces to the machine, it will be only necessary to make them circular instead of oblong. One engine will work several machines. The paper which Mr. Greener submitted dwelt in detail upon the advantages to be secured by the introduction of the patent machines. A discussion followed, and doubtless the matter will receive careful attention.

THE COPPER TRADE.—Messrs. Vivian, Younger, and Bond (Oct. 18) write:—The advance price asked by importers of Chili bars last week—70l. per ton—has been responded to by buyers to the extent of 150 tons, which have been cleared off at that figure, but towards the close there is again a pause, buyers expecting to come in at easier rates. There have not been any transactions in West Coast ores or regulus, the quotation being 14s. per unit. About 70 tons of Chili refined ingots have been sold at 77l. per ton. The last mail from Chili brings advice of charters of copper produce, amounting to about 1400 tons of fine copper, all for England, which is a fair supply; at all events, there does not seem any prospect of a falling off of shipments from the West Coast at present. Business in English raw and fine foreign has of late been reduced to a minimum, small occasional sales, however, take place at low rates, without being reported.

In our remarks in the Journal of Sept. 28, referring to the copper trade, we stated it was the general opinion that after the advice of the next two or three mails from Chili, there would be a gradual reduction in the imports of copper to this country, through the losses which had been sustained by shippers, in consequence of the low price that had so long ruled for that metal, and we looked upon this anticipated diminution of imports as a favourable feature for the Cornish miner. At the Coble meeting on the 2d inst., however, Mr. Grenfell, M.P., a great authority on such matters, is reported to have said that from the last advice from Chili it appeared a large quantity of copper ore was coming forward, and, therefore, the miner must not look for any advance in the price for the present. As facts, however, are somewhat better than the best of opinions, we may state, in confirmation of the views we expressed on Sept. 28, that the mail from Chili, at the end of September, brought advice of 1750 tons of copper shipped for England; while the mail of the 14th inst. brings advice of 1350 tons, and also states that the coast is nearly cleared of produce, and, in consequence, vessels were offered in vain at the almost unusual rate of 2l. per ton or less. The advice by the last five mails—say, for two months—show a falling off in shipments of copper to the extent of 2680 tons. The price in Valparaiso had fallen to a ruinously low price, while the price of provisions at the mines was greatly enhanced. It is probable that Mr. Grenfell alluded to heavy shipments only in reference to the present depressed state of trade; but let trade generally improve, and the shipments will be found very small, running, as they now do, from 1200 to 1800 tons by each mail, against 2000 to 2500 tons a short time since.

In the **MINING SHARE MARKET**, the dealers have been chiefly occupied in the settlement of the fortnightly account, and general business has shown no improvement upon last week. The mines mostly dealt in have been Prince of Wales, Marke Valley, Chontales, Wheal Buller, South Frances, North Crofty, Great Wheal Vor, Great Retallack, East Caradon, Chiverton Moor, North Treskerby, Wheal Grenville, East Grenville, Great Laxey, West Chiverton, Devon Great Consols, and a few others. Prince of Wales shares have been largely dealt in, and keep firm at 52s. to 54s.; the north wall of the lode in the 55 west has been reached in the cross-course, and next week its value will be ascertained. The ore (102 tons) realised, with carriage, 780l. Chiverton Moor, 5l. to 5½l.; Clifford Amalgamated, 7l. to 7½l.; Devon Great Consols, 420 to 430; we understand one investment has been made in this mine this week to the extent of 17,000l. Chontales shares have been flat, at 3½ to 4; the advice state that since last mail some further cases of cholera had occurred at the mines, which had prevented the natives returning to their work, consequently the force has been very small. Notwithstanding this, however, 211 ozs. of gold have been remitted. The health of the Europeans continues good, and everything at the mines, with the above exception, is satisfactory; indeed, we understand Captain Paul writes that he is more satisfied than ever of the value of the mines, and that all he has estimated respecting them will be fulfilled when they are in full operation. East Basset, 12½ to 15; East Caradon, 6 to 6½; East Carn Brea, 2½ to 3; East Lovell, 8½ to 9; East Russell, 1½ to 1½; Frontino and Bolivia, 13s. to 15s.; Great Laxey, 17½ to 18½; Great North Downs, 3½ to 4; Great South Tolgus, 12s. to 14s.; Great Wheal Vor, 17 to 18; Marke Valley, 6½ to 6½. Great Retallack, 3½ to 4; in the stope above the 20 north one part is worth 30 cwt. of rich silver-lead to the fathom; average of stopes, 10 cwt.; winze below, 8 cwt. East Grenville, 2 to 2½; in the 95 east a good lode for tin, and also 1½ ton of copper ore per fm., worth 12l. per fm. Wheal Grenville, 31s. to 33s.; the lode in the 100 west continues worth 70l. to 80l. per fm. North Chiverton, 4 to 4½; North Crofty, 3½ to 3½; North Downs, 11s. to 13s.; North Treskerby, 32s. to 34s.; Providence Mines, 28 to 29; South Frances, 33 to 35; Tincroft, 12½ to 13½; West Chiverton, 63½ to 65; West Wheal Kitty, 12s. to 14s.; Wheal Basset, 8½ to 8½; Wheal Buller, 22 to 23; Wheal Chiverton, 6 to 6½; Wheal Mary Ann, 16½ to 17½; Trumpet Consols, 11½ to 12½; East Trumpet, 1½ to 1½. West Seton, 160 to 170; at the meeting, on Tuesday, the accounts showed a profit of 1645l. 19s. 2d. on two months' working, and a dividend of 4l. per share (1600l.) was declared, leaving 1190l. 14s. 7d. in hand; the lode in Kidderley's shaft, 11 fms. below the 120 fm. level, is producing 12 tons of copper ore per fm.; the lode in the 120 west, 5 tons; the winze in the 120, 9 tons; there are thirty tribute pitches, varying from 4s. to 13s. in 17. Wheal Seton, 102½ to 107½; at the meeting, held on the 14th inst., the accounts showed a profit of 1012l. 1s. 10d. on the two months' working, and a dividend of 3l. per share (1188l.) was declared, leaving 3836l. 11s. 3d. in hand. The next sampling will be about the same quantity as the last, and in future the agents hope to increase the returns of tin.

The market for mine shares on the Stock Exchange has been quiet, and prices are not materially altered. East Caradons have been in favour at 6 to 6½, and Marke Valleys at 6½ to 6½, and some considerable transactions have taken place at quotations. West Chivertons are very steady at 64 to 65; Captain Pascoe, of South Frances, has inspected the mine for a private shareholder, and fully confirms the reports of the agents; the mine is looking quite as well as at any former period. Chivertons have been less firm, at 6 to 6½, on a few shares offering on a flat market. Chiverton Moors unchanged, price 6½ to 6½. Westminster Mines (Limited) are enquired for; the lode in the shaft and in the bottom levels is looking better; 50 tons of lead have been sold, and returns will now be made. Great Laxey 17 to 18, and is favourably reported on. North Crofty, 3½ to 4. North Chiverton, 4 to 4½; a winze sinking in the bottom level is proving a good lode. Foreign mines continue in fair demand. Port Phillip, 1½ to 1½ per share; Pestarena, 1 to 1½ prem.; Rossa Grandes have risen ½ to ½ per share; St. John del Reys are rather better, at 58½ to 59½; Chontales have recovered from the severe fall, and finally close at ½ dis. to ½ prem.; it is said that the directors are arranging for an importation of Coolie labour. Frontino, 1 to 1½. The changes otherwise are unimportant.

IRISH MINE SHARE MARKET.—Considering the depressing tone of the communications which rush in daily by wire and rail from the English Money Market, we may congratulate ourselves on having enjoyed a fair amount of business, particularly in mining shares, which are in good request at rather favourable prices. The Mining Company of Ireland shares (7l. paid) realised 17l. 10s., but holders are looking for an advance. Killaloe Slate Quarry shares have improved to 11s. 6d., at which price, however, more would be sold. General Mining Company for Ireland shares have been passed over, the public being afraid of the heavy liability for calls attached to them, although the mines promise great success at no very distant date. For Connoree, it augurs well that this company's shares have been in request at rates improved from 7s. per share, the lowest quotation since the 7th inst., to 11s. 6d., since the half-yearly meeting of the shareholders on the 5th inst., and of which we shall give our report on Saturday next. The directors reported most favourably on the prospects of the mines, and we believe successfully pointed out the advisability of the shareholders taking steps to provide further capital for the prosecution of this undertaking with increased power. For that purpose an extraordinary general meeting is called for the 19th inst. (this day), in order to raise a sum not exceeding 5000l. It

seems to us it is to be regretted the directors do not ask for a discretionary authority to double that amount, as with our experience in mining we know how very desirable it is to have ample capital at command. The Wicklow Copper Mining Company also held a half-yearly meeting, on the 12th inst., at which a dividend of 15s. per share was declared, absorbing 12,750l. out of 14,079l. 16s. 6d., the estimated amount of profit for the past account half-year. Of this meeting we must also defer further particulars till next week. This company's shares are now dealt in ex div. (payable on Nov. 1), and are freely purchased at 19½ for transfer (27 10s. paid).

At Truro Ticketing, on Thursday, 3710 tons of ore were sold, realising 16,183l. 14s. The particulars of the sale were:—Average standard, 115½; average produce, 6½; average price per ton, 47 7s. 6d.; quantity of fine copper, 228 tons 19 cwt. The following are the particulars of the sales during the past month:—

Date.	Tons.	Standard.	Produce.	Per unit.	Ore copper.
Sept. 19.	4000	117 19 0	6 ½	47 9 0	14s. 6 ½ d.
20.	2030	104 7 0	8 ½	6 2 0	14 4 ½
26.	3200	110 3 0	6 ½	4 7 0	13 8
Oct. 3.	1737	111 9 0	6 ½	4 6 0	67 8 0
10.	1737	110 3 0	6 ½	4 7 0	13 8
17.	3710	115 5 0	6 ½	4 7 0	14 14 0

Compared with last week's sale, the advance has been in the standard 14s., and in the price per ton of ore about 1s. Compared with the corresponding sale of last month, the decline has been in the standard 1½s., and in the price per ton of ore about 2s.

At the Swansea Ticketing, on Tuesday, 1990 tons of ore were sold, realising 30,181l. 13s. The particulars of the sale were:—Average standard, 92½; average produce, 21½; average price per ton, 157 3s. 4d.; quantity of fine copper, 422 tons 17½ cwt. The following are the particulars of the sales during the past month:—

Date.	Tons.	Standard.	Produce.	Price per ton.	Per unit.	Ore copper.
Oct. 1.	1255	92 9 0	17 ½	157 3 4	14s. 4d.	471 14 0
15.	1990	92 10 0	21 ½	157 3 4	14 3	77 7 6

Compared with the last sale, the decline has been in the standard about 10s., and in the price per ton of ore about 2s. On Oct. 29 there will be offered for sale 2343 tons of ore and regulus, from California, Cuba, Chili, and elsewhere, the money value of which will, probably, far exceed the present sale.

At West Wheel Seton meeting, on Tuesday, the accounts showed a credit balance of 2790l. 14s. 7d. The profit on the two months' operations amounted to 1645l. 19s. 2d. A dividend of 1600l. (4l. per share) was declared, leaving 1190l. 14s. 7d. to be carried forward to the credit of the next account. The amount of copper ores sold September and October to come to the credit of the next account is 5929l. 12s. 10d. Upon the proposition of Mr. William Harris, seconded by Mr. G. Read, it was agreed that the salary of the purser be increased from eight to ten guineas per month. The agents reported upon the different points of operation.

At Wheel Seton meeting, on Monday, the accounts showed a profit on the two months' operations of 1012l. 1s. 10d. A dividend of 1188l. (3l. per share) was declared, and 3892l. 11s. 3d. was carried forward to the credit of the next account. The purser reported upon the different points of operation, and it was stated that the next sampling will be about the same quantity as the last, and in future they hoped to increase their returns of tin.

At Dolcoath Mine meeting, on Monday, the accounts, for July and August, showed a credit balance of 1399l. 3s. 8d. The profit on the two months' working was 1075l. 4s. 7d. A dividend of 1074l. (3l. per share) was declared, and 261l. 3s. 8d. carried to credit of next account. Capt. Thomas, Provins, Tonkin, and Bawden reported upon the various points of operation. During the past few months they have been expending considerable sums in enlarging the dressing floors, putting in railroads, &c., for more economical working.

At the Wicklow Copper Mine Company (half-yearly) meeting, on Saturday (Mr. Edward Wright in the chair), it was stated that the estimated profit for the half-year amounted to 14,079l. 16s. 6d.; of this sum 400l. has been added to the indemnity fund against bad debts. A dividend of 12,740l. (15s. per share) was declared, leaving 929l. 16s. 6d. to be added to the surplus fund. The retiring directors and auditor were re-elected. Details in another column.

At South Darren Mine (directors) meeting, yesterday, a dividend of 1s. 6d. per share was declared. The balance carried forward amounted to 723l.

At Trevenna Mine meeting, on October 12 (Mr. G. Harris in the chair), the accounts showed a debit balance of 1950l. 1s. 3d. A call of 1l. per share was made, payable in four instalments. Messrs. G. Harris, E. E. Dwyer, and G. Rawlin were appointed the committee of management. A vote of thanks was passed to Capt. Foote for his energy and skill in working the mine under so many difficulties. The agents' report stated that since the last meeting they had sold 105 tons 2 cwt. 3 qrs. of lead ore, realising 2298l. 8s., and have about 20 tons in course of dressing. These returns would, they hope, be considered sufficient proof of the productiveness of the lode and the value of the mine; and they feel confident, if the regular pumping-power is erected to keep the engine-shaft sinking, and the mine constantly at work, that a short time will enable them to resume paying dividends.

At Wheel Emily Henrietta meeting, on Monday, the accounts showed a debit balance of 639l. 3s. 1d. A call of 1l. per share was made for the liquidation of the book debt, and to meet the further liabilities of the mine. The report of the agents stated that, looking at the change which has lately taken place in the 60 east, and in the shaft, they have full confidence that the lode will become productive on further development. Their principal object is to sink the shaft with all speed, as they are not as deep as where the adjoining mine to the west made the rich deposits of ore.

At the Sulby River Mining Company meeting, held at Douglas, Isle of Man, on Monday (Mr. J. C. T. Harrison in the chair), the accounts for the year ending Sept. 12 showed a profit of 1215l. 14s. (including 674l. 9s. 3d. labour cost) and been expended. The secretary consented to accept 30l. per annum for office rent, instead of 50l., as heretofore, until the mine gets into a dividend-paying state. The directors' report stated that during the past six months a 20-ft. water-wheel, 3 ft. breast, and the necessary pumps and machinery have been erected, and have worked well for four months. The sinking of the engine-shaft has been resumed. They feel most sanguine as to the ultimate success of the undertaking. The agent's report was considered to be highly satisfactory.

At the Devon and Cornwall United Mines meeting, on Tuesday (Mr. S. S. Bastard in the chair), adjourned from Sept. 10, for the purpose of having the mine inspected and drilled under the direction of the committee, the reports of Capt. Neill, Horne, and Donnal, and Florida were submitted. Capt. Neill and Horne reported that, should the pitches continue to yield the quantities of ore as at present, the mine could be worked without loss to the adventurers, and that the next sampling would be about 100 tons of fair quality ore. Capt. J. Rodda reported that the lode in the 22 ft. level, west of engine-shaft, in the "William and Mary" portion of the sett, would produce in the present end some 2 tons of good quality ore per fathom, with every indication of an early and important improvement. Reference is also made to a piece of ground 900 fms. long between this point and the workings of the "George and Charlotte," where it is thought a fair trial will lead to important discoveries of ore. The prospects in this part of the mine are considered of the most cheering character.

At Wheal Creake meeting, on Tuesday (Mr. T. Currie Gregory, C.E., F.G.S., in the chair), the accounts for the five months ending July show:—Balance last audit, 3749l. 14s. 5d.; labour cost, merchants' bills, and materials, 2060l. 18s. 9d.; discounts, interest, &c., 514l. 17s. 3d.;—6271l. 10s. 5d.—Ore and metal sold, 3474l. 7s. 9d.; water supply, 43l. 16s.; calls received, 2617l. 10s. 3d.; leaving debit balance, 1361l. 16s. 5d. Mr. T. Currie Gregory, the Chairman of the committee, reported that the progress of the mine and discoveries during the last five months have more than met the expectations. Capt. Skewis and Hooper reported upon the various points of operation. Full details, with the accounts and reports, will be found in another column.

At Gonamena Mine meeting, on October 10 (Mr. J. C. Isaac in the chair), the accounts showed a debit balance of 61 16s. 7d. A call of 1s. per share was made. There were about 30 tons of ore at surface, which was being got ready for market.

The Bank of England return for the week ending on Wednesday 11th inst. showed in the ISSUE DEPARTMENT a decrease in the "notes issued" of 13,500l., represented by a corresponding decrease in the coin and bullion on the other side of the account. In the BANKING DEPARTMENT there is shown on the liability side a decrease in the "public deposits" of 3,100,855l., and in the "rest" of 609,767l.; together, 3,710,622l.; an increase in the "other deposits" of 1,129,937l., and in the "seven day and other bills" of 49,484l.; together, 1,179,421l.—1,531,201l. On the asset side there is shown a decrease in the "Government securities" of 3669l., and in the "other securities" of 213,150l.;—36,859l.; and, deducting this from 1,531,201l., the decrease on the liability side there remains a decrease in the total reserve of 1,314,382l.

At the Gas Meter Company (Limited) meeting the amount available for division, after payment of the interim dividend in April, was stated to be 2696l., and a distribution equal to 12 per cent. per annum was declared. The sum of 1700l. was written off premises and plant, and 965l. was carried forward. Mr. J. A. Crookenden has been appointed secretary of the Phoenix Gas Company, in place of Mr. Charles Pridden, who retired on the 9th inst. Vice-Chancellor Malins has made an order for winding-up the New Mansfield Copper and Silver Mining Company (Limited), and appointed Mr. Chatters official liquidator.

On the Stock Exchange there has been a steady demand for Mining Shares during the week. The following quotations were officially recorded in British Mining Shares:—Great Laxey, 17½, 17½; East Corn Brea, 2½; Prosper United, 2½; Drake Walls, 11-16ths; Great Wheal Vor, 17½, 17½; Prince of Wales, 2½, 2½. In Colonial Mining Shares the prices were:—Yudanamutana, 1 1-16th, 1; Port Phillip, 1½; Cape Copper, 6½; Scottish Australian, 1½. In Foreign Mining Shares the prices were:—Anglo-Brazilian, 11-16ths, ½; Contantes, 4½, 4½, 3 15-16ths, 4; Don Pedro, 2½, 2 13-16ths, 2½, 2½, 58½, 58½; Pestarens, 5½; Frontino and Bolivia, ½.

COAL MARKET.—The number of fresh ships this week, of all kinds, only amounted to 64. This short supply led to an active business in house coals, and an entire clearance is effected at prices slightly dearer than last week. Hartley coals have not been quite so active,

and prices quote rather lower. South Hetton Wallsend, 21s. 6d. per ton; Haswell Wallsend, 21s. 6d.; Stewart's Wallsend, 21s.; Framwellgate Wallsend, 20s.; Wharnclyffe Wallsend, 20s.; Hetton Lyon's Wallsend, 19s. 6d.; Tunstall Wallsend, 19s. 6d. per ton. Unsold, nil; 10 ships at sea.

LECTURES ON GEOLOGY.—On Wednesday evening, Prof. J. Morris, F.G.S., commenced a course of lectures in connection with the Evening Classes at University College, Gower-street, on Mineralogy and Geology. The course will consist of two parts, of ten lectures each—the first comprising physical geography in relation to geology; the agencies at present in operation, volcanoes, coral reefs, &c.; dynamical geology; the application of mineralogy to geology as to the occurrence of the useful metallic and other mineral substances; whilst the second part will comprise an explanation of the succession of the stratified or fossiliferous rocks, and their distribution in the British Isles; and the nature and importance of organic remains, with description of the more characteristic fossils found in each formation. As the fee for the two terms is but 1½, and as Professor Morris is a most popular lecturer, it may fairly be anticipated that the course will be well attended throughout. The day classes are held on Tuesdays and Thursdays as usual.

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WANTED IMMEDIATELY, in a MINING ENGINEER, LAND, and BUILDING SURVEYOR'S OFFICE, a WELL-EDUCATED YOUTH, of from 14 to 15 years old, as an ARTICLED PUPIL. Premium not so much an object as that he should soon be able to render services in the different branches of his profession. Address, "Mining Engineer," MINING JOURNAL Office, No. 26, Fleet-street, London, E.C.

WANTED IMMEDIATELY, either new or secondhand, a 60 or 70 in. cylinder PUMPING ENGINE, with adequate boiler or boilers complete, for the WHEEL EMILY MINE, situated in the parish of CALLINGTON, CORNWALL. Parties desirous of supplying the same will send their price addressed to the manager, Capt. WILLIAMS, No. 9, Clarence-street, Plymouth, Devon.—Dated Oct. 7, 1867.

A GENTLEMAN, having a LONG and EXTENSIVE EXPERIENCE in the MANAGEMENT of MINES in CORNWALL, is OPEN TO AN ENGAGEMENT ABROAD as GENERAL MANAGER or SUPERINTENDENT OF MINES. Unexceptionable references. Address, "F. G. S.," Post Office, Truro.—August 20, 1867.

A GENTLEMAN, thoroughly conversant with Mining Operations and the general management and development of Mineral Properties, &c., DESIRES AN APPOINTMENT as CONFIDENTIAL RESIDENT and MANAGING AGENT. Would collect the rents and keep the general accounts of an extensive estate, and otherwise render his practical experience advantageous to a landed proprietor requiring confidential, trustworthy aid in the management and development of his property. The highest certificates and references of ability and energy, moral integrity, &c. Address, "Fides," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

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SNOWDON SLATE QUARRY (LIMITED), JOHN BOWER, Esq., D.C.L. Oxon, Managing Director. TO BE SOLD, FIVE SHARES in this company (£87 10s. per share paid up), for £30 per share. Apply to "X. Y. Z.," MINING JOURNAL Office, 26, Fleet-street, London.

PRINCESS OF WALES SLATE QUARRY. Manager—Mr. THOMAS HARVEY. FOR SALE, TWENTY-FIVE fully paid-up £5 SHARES, at 10s. per share. Apply to "J. B. S.," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

LANFAIR GREEN AND BLUE SLATE QUARRY, COMPANY (LIMITED).—Manager, T. HARVEY, Esq.—TO BE SOLD, FORTY SHARES, at £1 per share. No calls.—Address, "A. B.," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

TO BE SOLD, a SLATE QUARRY, in CARNARVONSHIRE, an open and making profitable returns. A low price will be taken to effect an early settlement. Full particulars, and satisfactory reasons for its sale, will be given by applying to Mr. WILLIAM SCOTT CALLANDER, C.E., Rhyl, North Wales.

HIRNANT LEAD MINE, MONTGOMERYSHIRE.—The above PROPERTY, not being disposed of by auction as advertised, on the 8th inst., WILL NOW BE OFFERED PRIVATELY. To treat, apply to Mr. T. W. HILL, Auctioneer, Oswestry.—Oct. 9, 1867.

FOR SALE, BY PRIVATE CONTRACT.—50 Pembroke Slate shares, 50 East Bottle Hill, 30 East Rosewarne, 10 Rosewarne United, 40 West Wheal Kitty. Address, "T.," MINING JOURNAL Office, 26, Fleet-street, London.

LEAD ORES.				
Date.	Mines.	Tons.	Amount.	Purchasers.
Sept. 1	Isle of Islay	30	£14 2 6	Walker, Parker, & Co.
Oct. 12	Black Craig	30	12 6 0	ditto
14	Carnarvonshire Cons.	30	11 17 0	A. Eytton.

BLACK TIN.				
Date.	Mines.	Ts. c. q. lbs.	Price p. ton.	Amount.
Oct. 10	Mary Hutchings	3 19 2	7 2 6	227 5 0
17	Wh. Trevenna	2 17 2	21 5	£53 0 0

COPPER ORE AND REGULUS.				
Sampled Oct. 1 and 2, and sold at Liverpool, Oct. 16, by Mr. JAMES LEWIS:—				
Mine.	Tons.	Amount.	Purchasers.	
West Canada, ex Hibernal	55	£15 18 6	.....	Vivian and Sons.
ditto	45	16 0 0	.....	ditto
ditto	ex Moravian	90	16 2 0	ditto
ditto	ditto	75	16 0 0	ditto
ditto	ex Nestorian	30	15 11 6	ditto
ditto	ex Peruvian	70	17 7 0	S. Helen's Copper Co.
ditto	ex Hibernal	40	15 11 6	Vivian and Sons.
Canadian ore, ex sundry ships	17½	15 11 6	.....	Williams, Foster, & Co.
ditto	ditto	15 11 6	.....	Sims, Williams, & Co.
California, ex R. Robinson	400	6 6 0	.....	Newton, Keates, & Co.
Chile Regulat, ex G. Grenfell	63	26 8 0	.....	Jas. Radley.
ditto	ditto	65	26 6 0	Bibby, Sons, & Co.
ditto	ditto	65	26 4 0	Jas. Radley.
ditto	ditto	65	26 6 0	ditto

COPPER AND COPPER ORES Sold at LIVERPOOL, from Sept. 28 to Oct. 15. Messrs. Pitcairn-Campbell and Co. (Oct. 15) write—After the publication of our last report, and the dispatch of the mail, holders of the raw material freely met the market, and a considerable business was done in Chili bars at 68½, and in ingots at 74 10s. to 76½. A reaction, however, subsequently ensued, and the market is now firm. Imports of foreign copper, &c., into Liver-

pool and Swansea during the first nine months of this year show an excess of 4877 tons pure over the corresponding period of last year, and compare thus—				
Ores.	Regulus.	Barilla.	Slab.	Tot. fine copper.
1866 .. Tons 50,288	28,344	919	8,428	81,287
1867 .. 35,288	22,111	791	18,228	56,146

Decrease .. 15,005 .. 6,233 .. 128 .. 9,800 .. 4,877				
Increase .. 15,005 .. 6,233 .. 128 .. 9,800 .. 4,877				
It will, then, be seen that ores, regulus, and Barilla show a decrease, whilst slab copper shows an enormous increase, there having actually been 5706 tons more imported in this shape in the nine months than in the whole twelve months of 1866. Of the above import of 36,164 tons fine copper, the West Coast of South America contributes 30,764 tons against 27,156 tons in the same period last year, being an increase of 3609 tons. It will, therefore, be observed that other sources of supply have been more prolific as well as Chili. According to the Board of Trade returns for the United Kingdom, the exports of copper for the first eight months of the following years, estimated in fine copper, were as follows:—				
Manufactured copper	9,594	9,448	9,448	5,609
Unmanufactured copper	5,776	4,367	4,367	3,169
Foreign copper	16,911	14,181	14,181	17,051

Quotations are 68½, 10s. to 70½, for bars, 76½, to 77½, for ingots, 14s. to 14s. 3d. for ores and regulus, and 15s. 3d. for Barilla, against, same date last year, 77½, to 78½, for bars, 86½, to 87½, for ingots, 15s. to 15s. 6d. for ores and regulus, and 16s. 6d. for Barilla. The sales reported in the fortnight amount to 1113 tons regulus, 1219 tons bars, 385 tons ingots, and 87 tons Barilla; details as annexed:—

Mine or ship.		Tons.	Price.	Mine or ship.		Tons.	Price.
Reg.—Brunette	417	£	0 14 0	Ing.—Atahualpa	110	£	75 10 0
Bars—Madeline	100	69	0 0	Ing.—Atahualpa	40	75	10 0
Ing.—Atahualpa	5	76	0 0	Bars—Second hands.	90	68	0 0
R'ila—Charlo Clark	25	0	15 1½	Ing.—Atahualpa	140	75	10 0
Bars—Second hands	50	68	0 0	Ing.—Corredora	40	76	0 0
Bars—Licut. Maury	50	68	0 0	Ing.—Second hands	50	76	0 0
Bars—Beatrice	200	68	0 0	Bars—Beatrice	50	69	0 0
Bars—Madeline	160	68	0 0	Bars—Second hands.	50	68	0 0
Bars—Kappa	200	68	5 0	Bars—Little Edith	46	69	0 0
Reg.—Chilio	696	0	14 0	Bars—Maida	123	70	0 0
Bars—Licut. Maury	100	68	0 0	B'ila—Barlochan	22	0	15 0
Bars—Beatrice	150	68	0 0	B'ila—Ariopha	10	0	15 0
Bars—Beatrice	80	68	5 0	B'ila—Seattoller	30	0	15 3
Bars—Delta	50	68	0 0				
Arrivals from the West Coast South America during the fortnight:—Mexican, from Colon, 35 tons Barilla; Huasiquipa, Carrizal, 610 tons regulus; Minerio, Coquimbo, 500 tons regulus; Maida, Coquimbo, 425 tons bars; Aurea, Talital, 610 tons. At Swansea—Paraca, Pan de Azucar, 590 tons ores and 135 tons regulus; Kappa, Caldera, 45 tons ores and 65 tons bars. Stocks of copper (Chilian and Bolivian) in first and second hand likely to be available at—							
Ores.		Regulus.		Bars.		Ingots.	
Liverpool	2308	2877	4657	393	210		
Swansea	1857	132	663	545	64		
Have	—	—	3770	430	—		

Arrivals from the West Coast South America during the fortnight:—Mexican, from Colon, 35 tons Barilla; Huasquila, Carrizal, 610 tons regulus; Mineral, Coquilmo, 500 tons regulus; Maida, Coquilmo, 425 tons bars; Aurea, Talero, 610 tons. At Swansea—Paraca, Pan de Azucar, 590 tons ores and 135 tons regulus; Kappa, Caldera, 400 tons ores and 55 tons bars. Stocks of copper (Chilian and Bolivian) in first and second hands likely to be available are:—

COPPER ORES.				
Sampled Sept. 25, and sold at Swansea, Oct. 15.				

Mines.			
Tons.	Produce.	Price.	
Chili	50	35½	£24 8 6
ditto	50	35½	24 10 6
ditto	50	36½	24 13 6
ditto	50	34½	24 4 0
ditto	50	36½	25 0 0
ditto	50	37½	25 18 0
ditto	50	38	25 18 6
ditto	50	35½	25 0 0
ditto	50	35½	25 13 0
ditto	50	36½	25 10 6
ditto	50	36½	25 17 6
ditto	50	36½	25 11 6
ditto	49	36	25 7 6
ditto	52	15½	10 13 0
Cuba	80	15½	10 16 0
ditto	68	24½	16 9 6
ditto	1	58½	38 5 0
ditto	1	65½	43 11 0
ditto	79	15½	10 12 6

TOTAL PRODUCE.											
Chili	649	....	£16,358	7	6	Berehaven	238	....	£1551	9	0
Cuba	548	....	7,868	11	0	Ballycummisk ..	36	....	236	6	6
Kurilla	6	....	85	19	0	Copper Slag.....	1	....	5	0	6
Knockmahon ..	500	....	3,614	7	6	Irish Ore	32	....	461	12	0

COMPANIES BY WHOM THE ORES WERE PURCHASED.		
	Tons,	Amount.
Copper Miners Company	550	\$3614 7 6
Freeman and Co.	67	1097 2 6
P. Grenfell and Sons	100	2555 0 0
Sims, Williams, & Co.	165	3265 7 0
Vivian and Sons	162	1737 6 0
Williams, Foster, & Co.	327	6641 8 6
Mason and Elkington.....	216	2383 4 0
Bankart and Sons	33	200 9 6
Charles Lambert	100	292 10 0
Sweetland, Tuttle, and Co.	190	4092 5 0
Penelawd Copper Company.....	130	3095 13 0
Total	1990	\$30,181 13 0

WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS,
MINING AGENTS, STOCK AND SHARE DEALERS, &c.
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

Messrs. WATSON BROTHERS beg to notify to their friends and the public generally that Mr. W. H. CUELL has retired from the firm, in accordance with a clause in the deed of partnership; and having also sold to the remaining partners all his right, property, and interest in the business hitherto carried on by J. Y. WATSON, F.G.S., NAPOLEON FRANKLIN WATSON, and himself, under the name of "WATSON and CUELL," the same will be carried on in future by Mr. J. Y. WATSON and Mr. N. P. WATSON, under the designation of "WATSON BROTHERS," and they take this opportunity to return their most sincere thanks for the great patronage bestowed and confidence reposed in the firm for 24 years, and to assure their friends and clients it will be their earnest endeavour to merit a continuance of both.

Messrs. WATSON BROTHERS have made arrangements for continuing their weekly Circular, which has had a large circulation for many years, to the columns of the *Mining Journal*, their special reports and remarks upon mines and mining, and state of the share market, will in future appear in this column. In the year 1843, when Cornish mining was almost unknown to the general public, attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. J. Y. WATSON, F.G.S., author of "Gleanings among Mines and Miners," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with statistics of the Mining Interest, annually for 21 years, &c. &c. In the Compendium, published in 1843, Mr. WATSON was the first to recommend the system of a "division of small risks in several mines, ensuring success in the aggregate," and Messrs. WATSON BROTHERS have always a selected list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest and experienced advice in regard to mines and share dealing than there is at present; and, from the lengthened experience of Messrs. WATSON BROTHERS they are emboldened to offer, thus publicly, their best services to all connected with mines or the market, as they have for so many years done privately, through the medium of their own Circular.

Messrs. WATSON BROTHERS transact business in the purchase and sale of mining shares, and other securities, payments of calls, receipt and transmission of dividends, obtaining information for clients, and affording advice, to the best of their knowledge and judgment, based on the experience of more than 30 years active connection with the Mining Market.

Messrs. WATSON BROTHERS also inform their clients and the public that they transact business in the public funds, railway, docks, insurance, and every other description of shares dealt in on the Stock Exchange.

Messrs. WATSON BROTHERS are also asked their opinion of particular mines, as well as to recommend mines to invest or speculate in, and they give their advice and recommend mines to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts, but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

Messrs. WATSON BROTHERS having agents and correspondents in all the mining districts, and an extensive connection among the largest holders of mining property, have the more confidence in tendering their advice on all matters relating to the state and prospects of mines and mining companies, and are able to supply shares in all the best mines at close market prices, free of all charge for commission.

"CLIENT."—1. In this we never had great faith.—2. In this we have.—3. Our opinion has been lately expressed. The present fall is owing to exceptional and unusual circumstances. Several lots of mines have been remitted, their dues, owing to the dull state of mining. The Crown, on the contrary, is taking advantage of breaches of covenant to obtain possession of sets, and to impose most unprecedented terms for new leases. One or two cases have been sent us, and we shall, ere long, refer to the subject in detail.

"THE STRENGTH OF MATERIALS."

Although issued as the sixth edition of PETER BARLOW'S well-known work, the volume now under consideration is worthy of being regarded, for all practical purposes, as an entirely new work; since it consists not only of Professor Barlow's original work revised by his sons, Messrs. P. W. and W. H. Barlow, but also of a summary of experiments by Messrs. Eaton Hodgkinson, William Fairbairn, and David Kirkaldy, and an essay (with illustrations) on the effect of passing weights over elastic bars, by Prof. B. Willis, the whole being arranged and edited by Mr. W. H. Barlow. The treatise embodies rules for application in architecture, the construction of suspension bridges, railways, &c., and an appendix on the power of locomotive engines, and the effect of inclined planes and gradients; and in the present edition the portion treating of cast-iron has been considerably augmented, and much increased in value by the introduction, in a compressed and convenient form, of the information contained in Mr. W. H. Barlow's papers on the transverse strength of beams. The inaugural address by the President for 1867, Mr. Zerah Colbourne, comprises some judicious observations upon the development and future of the society, which are, of course, directed to the members. The first paper is on the Slide-Valve, by Mr. Thomas Adams, who has for some years past applied himself to produce a frictionless slide-valve. In this he appears to have succeeded, for the Locomotive Engineer of the North London Railway states that he has used Mr. Adams's valves for some time on his locomotives, and finds that they are a substantial success. The process by which Mr. Adams arrived at a successful issue is fully stated in the paper, as are also the numerous experiments it involved, and which give results of great importance to mechanical engineers.

TRANSACTIONS OF THE SOCIETY OF ENGINEERS.

The members of the engineering profession certainly are indebted to the Society of Engineers for the disinterested manner in which they give to the world the papers read at their meetings, and the valuable discussions which follow them. Year by year their Transactions are printed and published, and they contain a large amount of varied information, which will prove useful to all classes of engineers. They are, for the most part, the practical experiences of the members of the society, who are engaged in various branches of the profession. In the volume now before us we have a variety of subjects treated of, and every one of them in a thoroughly practical manner. The inaugural address by the President for 1867, Mr. Zerah Colbourne, comprises some judicious observations upon the development and future of the society, which are, of course, directed to the members. The first paper is on the Slide-Valve, by Mr. Thomas Adams, who has for some years past applied himself to produce a frictionless slide-valve. In this he appears to have succeeded, for the Locomotive Engineer of the North London Railway states that he has used Mr. Adams's valves for some time on his locomotives, and finds that they are a substantial success. The process by which Mr. Adams arrived at a successful issue is fully stated in the paper, as are also the numerous experiments it involved, and which give results of great importance to mechanical engineers.

The next paper is by Mr. Carl von Wessely, on Arched Roofs. It describes most of the modern iron roofs of importance, the first being the main arched roof of the Dublin Exhibition Palace, and of the Winter Garden. The first of these roofs is 218 ft. 10 in. long, by 50 ft. 6 in. wide, and the second 253 ft. 6 in. long, by 50 ft. 6 in. wide. The next roof described is the arched roof of the Derby Market Hall, which is 192 ft. long, and 56 ft. 6 in. wide. The third is the Crystal Palace roof, or rather roofs, for there are two of similar construction, but of different widths, one being 120 ft. and the other 72 ft. apart. The American Crystal Palace roof is next described; it is 329 ft. in total length, and 64 ft. in width. It is divided in the centre of the building by an oval dome, which is a very special piece of construction, and presents a somewhat singular, though not unpleasant, appearance. The last roof described is that of the St. Pancras Station of the Midland Railway, now in course of construction. This roof, when completed, will be the largest in the world; it will be 690 ft. long, and will have a clear span of 240 ft. This is a few feet wider than the roof of the riding-school at Moscow, which hitherto has been the largest ever erected. This paper is fully illustrated with drawings of the several roofs, and will be found very valuable for reference by all engaged in works of this character.

The merits and demerits of the various methods of Utilising Sewage have been so widely discussed of late that we hardly need do more than refer in passing to the next paper, which is on this subject. It is written by Mr. Baldwin Latham, an engineer of considerable experience in sewage matters, and the present paper gives the result of his practice in this direction. It contains a great amount of information respecting the value of sewage and the proper methods of applying it under varying circumstances. It also gives the results of its utilisation, which go to confirm what has been so often and so well proved—namely, that, with judicious application, sewage is of the greatest value, not only to the land on which it is applied, but in another direction, in preventing the fouling of rivers.

The Incrustation of Marine Boilers, and, in fact, of any boilers, is a subject which has at all times occupied a large amount of serious attention. We now have it treated in a practical manner by Mr. P. Jensen, who points out the evil and the remedy. The disease is a very difficult one to deal with, and for preventing it various means are adopted. Surface-condensers are used; the feed-water is heated before entering the boiler, to throw down the salts; various compositions are used both in the feed-water and in the boiler, and blowing-off is resorted to. Amongst marine engineers it appears to be the opinion that occasional blowing-off is the best remedy. We incline to the opinion that surface condensation is far better, and, although many engineers are opposed to it, we think it will ultimately be found the true remedy. But the question of boiler construction strikes us as being at the root of the evil. Were boilers made so as to ensure perfect circulation of the water, incrustation would be practically stopped. This is the case in the United States, where vertical water-tube boilers are being largely used in the navy, and the same result would follow their adoption here and elsewhere.

Mr. Baldwin follows next with an interesting paper on Single and Double Rivetted Joints. He appears, first, to find fault with the system of rivetting with a 2-in. pitch of rivets, and, finally, to conclude by recommending a pitch within a very small fraction of 2 in. But Mr. Baldwin assumes that a 2-in. pitch is the usual custom in boiler-making. This, however, is erroneous, although a 2-in. pitch answers well for an ordinary thickness of plate. A great number of boilers are made in the Staffordshire mining district, and the pitch there is sometimes as much as 2½ in., with a 7-16th plate; scarcely ever is it less than 2½ in. An economy is gained by this pitch, as there are a less number of rivet-holes to be punched, and of rivets to be made and driven home. On the London and North-Western Railway the boilers of the express engines are of 7-16th in. plates, with ¾-in. rivets, and 1½-in. pitch. Again, in marine boilers, with

* "The Society of Engineers' Transactions for 1866." London: E. and F. N. Spon, 48, Charing-cross, 1867.

¾-in. plates, 11-16th in. rivets, and a pitch of 2¼ in. is common. So that a 2-in. pitch is not universal, although in ordinary practice safe and convenient. The two concluding papers are, first, one on the Railway-Bridge at La Place de l'Europe, Paris, by Mr. Thomas Cargill; and, next, one on the Designing and construction of Storage Reservoirs, by Mr. Arthur Jacob. Mr. Cargill gives an excellent description and drawings of a most complicated structure, for the place de l'Europe is the common focus to which converge six of the principal streets in Paris. The bridge is of peculiar construction, and affords good scope for the exercise of engineering talent. Mr. Jacob's paper enters largely upon the construction of storage reservoirs, for husbanding water, where the rainfall is capricious, and the necessity for water continuous. These two papers will be found of great value to the civil engineer, as will also that upon arched roofs. We may mention that to these three papers premiums of books were awarded by the society. The Transactions are well got up, the illustrations to the various papers being drawn to scale, and lithographed in excellent style.

Notices to Correspondents.

CEPH MAWR AND SOUTH RESOLVEN COLLIERY COMPANY, NEATH, SOUTH WALES.—Can any reader inform the shareholders what is doing in this matter? The shares are all paid-up, and nothing has been heard of the concern for some months past.—A SHAREHOLDER.

TUNNELING BY MACHINERY.—Can any of your correspondents kindly inform me where I could see a Rock-Boring Machine, worked by atmospheric air, in actual work, within a reasonable distance from this town? By so doing you will greatly oblige.—T. Waterhampton.

NORTH TREKERRY MINE.—Your correspondent, who signed himself "A Shareholder" in last week's *Journal*, could not have very attentively perused the statement of accounts furnished to him by the purser, or he would have seen that, although the cash balance had been reduced to the extent he states, yet that there was an item of 1741l. 12s. 10d. for ore sold on Sept. 26, which was not credited. I find upon reading your City Article that this important item was there also omitted, giving the impression that the actual credit balance was only 2741l. 12s. 5d.—ANOTHER SHAREHOLDER.

THE PORT PHILLIP AND COLONIAL GOLD MINING COMPANY.—I think it would not be amiss if the directors, without waiting for the annual general meeting, in January, were to distribute 2s. per share among the shareholders. They have in hand 12,581l., and, as 2s. per share would take 9750l. from that amount, it would leave them sufficient margin to meet contingencies. The directors, probably, can only make 1 per cent. of the money, while many of the shareholders could make a much larger percentage.—A LARGE SHAREHOLDER.

WHEAL TREVENNA—SOUTH TREVENNA—TIN HILL.—We have received letters from Capt. Jennings in reference to the affairs of these mines. They contain simply a repetition of the statements which have already appeared, and their publication would be in no way satisfactory to the shareholders. The proper course to pursue is for the directors to call a meeting of each company, and request Capt. Jennings to attend, when examinations could be made as to the accuracy of the various allegations, and, after mutual explanations, those present could form an opinion and express their views in resolutions to be recorded.

PESTARENA UNITED GOLD MINING COMPANY.—The statement made in last week's *Journal*, to the effect that the remittance of gold from amalgam produced since Aug. 27 amounted to 1047 ozs., cannot fail to be satisfactory to the shareholders; but, perhaps, the most pleasing statement in your paragraph is the value of the remittance as against the monthly cost. It is all very well for the shareholders to be told that so much gold has been produced during a month's operations, but, after all, the most satisfactory statement would unquestionably be the cost incurred in obtaining the gold.—A SHAREHOLDER.

THE NEW PROCESS FOR MAKING CHLORINE.—The letter from Mr. Walter Weldon, in reference to that from Mr. Baggs, in last week's *Journal*, is unavoidably postponed.

THE MINING JOURNAL,
Railway and Commercial Gazette.

LONDON, OCTOBER 19, 1867.

FREE LABOUR.

Another Blue Book, containing evidence taken before the Royal Commission appointed "to enquire into the organisation and rules of Trades Unions and other associations," has just been issued. The portion of the subject dealt with in this report chiefly belongs to the soundness or otherwise of the benefit society branch of Trades Unions. This is a very important point, because it is precisely for advantages of that kind that the bulk of the workmen consent to give up their individual freedom and join the Union,—that is to say, they go into it as a friendly society, to insure themselves in some degree against old age, sickness, accident, or loss of work, and they find themselves entangled in an organisation for the purpose of strikes and intimidation. There is a degree of plausibility about this arrangement which effectually conceals its dangers and its weakness. As soon as a society undertakes to make payments to a man out of work, it is fair and right that it should take some cognizance of the causes which lead to his wanting employment, and then quarrels and strikes are brought into the field of enquiry and arrangement. The evidence in the Blue Book alluded to is all extremely interesting and important, but our present object is merely to draw attention to that of Mr. TUCKER, actuary of the Pelican Insurance Company, to whom had been submitted the rules and organisation of the Amalgamated Engineers' and Amalgamated Carpenters' Societies, with respect to the charges on their funds. The result of Mr. TUCKER'S enquiries is that the subscriptions are utterly inadequate to meet the purposes of an ordinary benefit society—leaving out of the calculation allowances to men out of work from other causes than sickness. This calculation is based upon the terms set down in the rules, without reference to extra demands, which are called "whips," or "levies," but which, whenever made, are done according to no rule, but by the arbitrary enactment of an irresponsible executive, and are payments beyond those the members have put before them when they enter.

This has been long known by the more able and thoughtful of the men, and it is not, therefore, surprising that an effort to supply the benefits of association on a sound basis should be made, or that it should be coupled with regulations intended to secure to the workman the free right to deal with his labour in his own way. It is rather a curious thing that the Unions should lay down as the foundation of their system a principle which condemns themselves. The Unions claim as their Magna Charta the right of every man to work or not to work, to strike or not to strike, to combine or not to combine, as he pleases; but the very basis of their operations is the compulsion they put upon every man to join their combination whether he likes it or not, to strike when he is ordered, and to work or leave off working, not according to his own will, but in obedience to an executive council, the members of which may be inferior men to himself in every respect.

In order to rescue working men from this tyranny, and to supply them with a real benefit society, based on sound principles, which will not break down in the day of trial, a "Free Labour Registration Society" has been formed in Westminster. Besides relief in sickness, &c., its objects are—

"To secure to its members the free exercise of their right to dispose of their labour or capital upon whatever terms, and under whatever circumstances they may individually and independently think fit; and that, in order to assist members to obtain employment, a registry is and shall be kept of all members requiring employment, from which employers are and shall be invited to engage their hands."

In the furtherance of these objects there are rules which provide for the submission of all disputes which may arise between the workmen registered by this society and their employers to arbitration, under the provisions of Lord St. Leonard's Act.

This society, which has been ably organised by a philanthropic gentleman who, we believe, has defrayed all the preliminary expenses himself, numbers now 4000 members, and is self-supporting, or nearly so. Of course, to be useful the co-operation of employers is necessary, and we find from the statements of Col. MAUDE (the gentleman just alluded to), at a meeting a few days ago, that ninety-seven employers are subscribers. Considering the great advantages which this movement cannot fail to confer upon the community, by freeing both masters and men from Union tyranny, it is rather surprising that it has not been supported more largely by the employers of labour and the public generally. Col. MAUDE'S great object has been to render the society self-supporting; but to spread more widely the knowledge of its advantages, and to indefinitely increase the number of members, and, of course, its usefulness, a considerable outlay is requisite, which must be covered by outside subscriptions. We, therefore, commend this important movement to the sympathy and support of our readers. If taken up with spirit there will be no difficulty in establishing branches at all the great centres of industry, and, indeed, everywhere in the United Kingdom. When this is done, the Unionists will find that although no one disputes their right to

combine, they will be obliged to limit the objects of their combination to those which are legitimate and harmless, and which respect the rights and opinions of those who differ from them.

THE PROPOSED CONFEDERATION OF IRONWORKERS.

In last week's *Journal* we drew attention to the proposition of the few remaining Unionists amongst the puddlers in South Staffordshire, that there should be a confederation formed of the ironworkers in the South and the North of England. Such a confederation the Brierley Hill district—the head-quarters of the Southern Union—were proposed to enter, "on condition that they (the Northern men) will give a pledge to us to renounce the services of a professional president, whose office we consider a mere sinecure."

It has just transpired that action was at once taken in the North upon the resolutions of the men of the South. This has come out during this week at the meetings that have been held in South Staffordshire by Mr. KANE, the president of the Northern Union. The reports of this gentleman's "tour," which appears in the local papers, fully bear out all our remarks as to the disorganised condition of affairs amongst the Unionists which now prevails. The leading spirits of the two sections of Unionism in the iron trade would seem to be set by the ears. The secretary of the Northern Union (Mr. MILLINGTON) upon learning what the Brierley Hill men had done, writes to the secretary of the Southern Union (Mr. HOBSON), asking that the intended plan of action may be submitted to him, suggesting the calling of a meeting of representatives from the whole trade "for the purpose of devising plans and adopting means to secure the object before us," and saying—if such be the will of their members—that both himself and the president are willing to resign their offices, if thereby one association can be brought about, whilst the Southern secretary is "reminded of the necessity of doing the same."

To this the Southern secretary replies that the members of his association will take no further steps "tending to federation" until they have a satisfactory statement from the members of the Northern Association "respecting the pledge" embodied in the resolution of the South. A fierce feud would seem to be raging between Mr. KANE and Mr. HOBSON, and the Brierley Hill Association appears to side with their own officer; therefore they persist in the dethronement of the "King of the North Country." Mr. KANE has no notion of giving it up so. He challenges the Southern champion to mortal strife, in the shape of a meeting on an "open platform," to discuss "the past, present, and future policy which should be adopted by the ironworkers in Union;" and the Wednesday puddlers pass a resolution approving the proposed tilt. Mr. HOBSON, however, is not so great an orator as Mr. KANE, and he prefers meeting the northern man in the presence of three on either side. But Mr. KANE will not descend from the open platform, for he says that "some time ago a libellous, blackguard circular was sent forth by Mr. HOBSON," and he, therefore, "claimed the right of defending himself before the men who had read and swallowed the slanders?"

Unable to get his opponent to meet him, Mr. KANE seems to have gone into Staffordshire, called meetings of ironworkers in different localities, defended himself from the alleged "slanders," attributed the present disorganised condition of Unionism, both north and south, "not so much to the power of the masters" as to the existence of three Unions—including therein the Union of millmen, who hold aloof from either of the puddlers' associations—with three secretaries, and announces, as part of the object of his visit to the South, his intention of taking office in Walsall for "The National Amalgamated Association of Malleable Ironworkers," whose head quarters are to be removed thence from Derby, and whose finances are to be augmented, or the two sides of its balance-sheet made to more nearly approach than is at present the case, by the trade of printing being carried on at the offices. Upon the condition of Unionism amongst ironworkers, we need, after this sketch of the "pretty little quarrel as it stands," say nothing. The facts themselves are eloquent of the moral of "a house divided against itself."

MOSQUITO LAND SECURITIES.

When, years ago, we penned our first article on the Mosquito Land Securities, the Javali and other Chontales gold and silver mines were as yet unknown, and the practicability of establishing an inter-oceanic railway communication between the Atlantic and Pacific remained yet to be demonstrated. But we knew from every available source of information that Mosquito, Nicaragua, and Honduras were countries worthy of the attention of every thoughtful man. We are glad to see that the holders of the so-called Mosquito Securities begin at last to comprehend the additional inducements there now are to endeavour to get their long-slumbering claims duly acknowledged, or if that cannot be done, equitably compromised. The English public are now thoroughly alive to the importance of the Chontales gold region, the practicability of making an inter-oceanic railway, and the desirability of turning the lowlands of Mosquito into cotton fields, the highlands of Nicaragua and Honduras into sheep runs. General MARTINEZ, who was ten years President of Nicaragua, and during the whole of that time secured to that country peace, with many useful reforms, and treaties beneficial to his countrymen, is now on a visit to England for the special purpose of arranging the Mosquito question. And last, though not least, we have in Capt. BEDFORD PIM, R.N., a public man who has a thorough practical knowledge of Mosquito and Nicaragua, and who enjoyed the confidence of the Mosquito Indians to such a degree that at a public meeting, held at Blewfield, they unanimously elected him their representative. It is well known that during his various visits to Nicaragua Captain PIM placed himself on the most amicable footing with General MARTINEZ, and, if anything more than another was calculated to bring this question to a speedy and satisfactory settlement, it would be that the two representatives should be on friendly terms with each other when they begin to discuss the question.

We understand that after the meeting of the Mosquito Land holders, at the London Tavern, which we reported in last week's *Journal*, a formal communication was opened with General MARTINEZ on the subject by the committee of gentlemen appointed on that occasion (the temporary offices of whom are at 9, Warford-court, London, E.C.). They have also been in communication with Capt. BEDFORD PIM, and he has given them frankly his opinion, to the effect that before the Mosquito Indians could possibly entertain the incorporation of their territory with Nicaragua—a consummation much desired by the latter Republic, and one of the reasons of C. MARTINEZ'S mission to England—it would be necessary to see the holders of land warrants, granted under former Mosquitian authorities, fully secured in the possession of their land; and the Captain held out the prospect that "an agreement on the part of Nicaragua to place those holders in quiet possession would remove one great difficulty in the way of the proposed incorporation of Mosquito with Nicaragua." Now, here we have the whole Mosquito question in a nutshell. Before the Mosquito reservation is effaced from our maps, let the land warrants issued by the former local authorities of Mosquito be formally acknowledged by Nicaragua; and let an understanding be attempted to be arrived at that, for the many millions of acres British and Dutch holders are entitled to, the Government of Nicaragua makes over to them (say) 4,000,000 acres, located on the Blewfields, Great and Wanks Rivers, and their tributaries, reserving to itself merely the right to impose a quit rent for every acre cleared.

As soon as such an arrangement shall have been arrived at, a company could be formed for the colonisation of the land obtained, in accordance with the colonisation laws of Nicaragua; and lands which have been allowed to remain waste since creation day, would thus at last become a source of profit to both natives and foreigners.

AUSTRALIAN GOLD.—The imports of gold from Australia appear to have somewhat revived of late. In 1858, these imports amounted to 9,064,763l.; in 1859, to 8,624,566l.; in 1860, to 6,719,000l.; in 1861, to 6,331,225l.; in 1862, to 6,704,753l.; in 1863, to 5,995,368l.; in 1864, to 2,656,971l.; in 1865, to 5,051,170l.; in 1866, to 6,839,674l.; and in 1867 (first eight months), to 3,277,613l. The imports in each month to Aug. 31 this year were as follows:—January, 451,910l.; February, 131,619l.; March, 584,621l.; April, 398,173l.; May, 425,454l.; June,

294,972; July, 413,524; and August, 577,340. Notwithstanding the large sums Australia has received for her gold, all the Australian colonies are labouring under more or less depression this year.

THE COALBROOKDALE COAL FIELD.—SUCCESSFUL SEARCH FOR COAL BY THE MADELEY WOOD COMPANY.—On Monday the welcome news was communicated to the Madeley Wood Company and their agents that the long-looked-for discovery of coal had been made at the New Kemberton pits, and the men employed are just preparing to "take up," as it is called, a valuable seam known through the district as the top coal. The thickness of the seam has not yet been ascertained, as the men are obliged to proceed cautiously on account of sulphur, but the importance of the discovery that has been made at an outlay of nearly 30,000*l.*, and after three long years of persevering labour will be duly appreciated by this and other companies, as well as by the inhabitants of the surrounding district, who had begun to feel the effects of a diminished supply. The public, too, may have some idea of the importance of finding this seam of coal, from the fact that whilst it is the most valuable in the district it is at the same time the most uncertain of the series, but once being found others in regular succession will certainly follow, as the Double Coal, Yard Coal, Best Coal, Flint Coal, Randle Coal, Clod Coal, and Little Flints, and others of minor importance. Should the coal upon working prove good under the adjoining estate of the Duke of Cleveland, another pair of pits will be at once commenced. From the abundance of ironstone and good furnace coal in prospect, sufficient at least to last the lifetime of the youngest member of the Anstice family, blast-furnaces will rise where scarce a house is seen, and a busy population will plant themselves on the rough ground, now tenanted by rabbits, a few stray hares, and squirrels, which sport themselves in neighbouring trees. It should, however, be clearly stated, in order to avoid misunderstanding, that the discovery now made is not that of a new coal field, or even a portion of one. It only proves the expansion of the old one beyond the limits previously assigned it; at the same time it affords no evidence whatever of the continuance of the seam for any great distance in the line now taken from former workings in the direction of the south-east. On the contrary, it affords ground for caution to any who might be disposed to speculate upon finding the same seam (the Top Coal) beyond the boundaries of the land under which the Madeley Wood Company have the right of working in the direction of Shiffnal, as additional indications are not wanting of the near proximity of the Great East or Symon Fault, which Mr. Marcus W. T. Scott, F.G.S., has laid down in his paper, read before the Geological Society of London (1861) on that subject. The probability of the extension of the same seam to the east and north-east, however, is much greater, and the enterprising Lilleshall Company, of which Lord Granville is head, encouraged by researches they themselves have made by means of their new Granville and Stafford Pits, are already in the field, and are sinking an additional pair of pits beneath the Permian sandstone, beyond that which was considered the *Ultima Thule*, or limits, of the old coal field. Still although this valuable mineral of the upper series of the coal measures might disappear sooner than might be expected from the list of coals to fall back upon, at the lowest calculation abundant fossil fuel is proved to be in store, not only for this but for the next generation. Indeed, there is no evidence to show that the lower members of this rich mineral series have anywhere been entirely denuded to the east, or the north-east, and as there is abundant geological evidence to show the Coalbrook Dale and South Staffordshire coal and ironstone beds were contemporaneous in their formation, we have every reason to believe that they were continuous, and, if not denuded, that they are intact at workable depths beneath the New Red Sandstone and Permian rocks, separating at present the two coal fields. We may add, the depth of the New Kemberton Pits down to the Top Coal is 256 yards, and that the probable depth thence to the Little Flint Coal will be 59 or 60 additional yards.

COLLIERY VENTILATION.—At the recent meeting of the Geological and Polytechnic Society of West Yorkshire, Mr. R. CARTER, C.E., of Barnsley, in an interesting paper "On Ventilation as related to Colliery Explosions," remarked that the systems of coal working generally in practice were to a great extent, if not altogether, established upon principles of expediency rather than upon any well-regulated scientific truth; and without attempting to deny the varying conditions under which this practice of coal mining must necessarily be carried on—thickness of seam, and quality of coal as respects its production of gas, being always taken into consideration—there is a diversity of opinion even amongst mining engineers themselves, which tends greatly to strengthen and confirm the accuracy of this conclusion. So long as the leading currents of ventilation are forced in directions directly opposed to the habit which the lighter and more dangerous gases naturally obey, isolation must continue, and with it those magazines of danger and of death, which make the use of safety-lamps necessary and imperative. Harmonise the direction of such currents and habit, and the result must go far towards realising the security and convenience so necessary to be obtained. It is scarcely necessary to incorporate in this paper a discussion of the details of particular systems resorted to in the recently isolated operation of getting the coal. They are to a great extent quite independent of the scheme and theory upon which the ventilation of the mine is established. Assuming them, therefore, as applicable to one direction or the other—it must be evident that the most active and important facilities may be obtained by aligning them to currents which follow an ascending plane—and that all such advantages are frustrated when the isolation is produced which descending currents of necessity give rise to. Without wishing to diminish the censure sought to be stamped on what may be termed the unnatural, or downward, direction of ventilating currents for the operative parts of a mine, there may be sufficient to justify in practice the adoption of a descending plane for the final course, by which the return air is directly expelled from the mine. The operation of coal getting should, however, be so manipulated that each separate working "face" should have access to the return air current at the highest point to which the face may be carried, the fresh air admitted at the lowest part being made to sweep out the goaf in its passage to the face, and so prevent the accumulation of secreted gas in places to which it is attracted by repose, rather than habit or natural choice. The vast importance of improved systems of ventilation might be argued as a necessity of winning coal from far greater depths than we have hitherto been accustomed to. The proposition is, however, far too self-evident to warrant further observation.

THE MINERAL RESOURCES OF NEWFOUNDLAND.—In an interesting report by Mr. Alexander Murray, addressed to Mr. W. C. Sargenaut, of Spring-gardens, the Crown Agent for the Colonies, it is remarked that it is greatly to be regretted by all who have the interests of the province at heart that grossly exaggerated statements, referring to the mineral wealth of Newfoundland, have at various times been circulated in a manner which has tended to retard rather than advance the object desired, propounding assertions too palpably improbable to admit of any consideration on the part of experienced persons. Nevertheless, there can be no doubt that the mineral indications are in many instances highly encouraging, and may ultimately prove of great importance to the colony. The mineral productions which have been discovered at various times on different parts of the island are the ores of silver, copper, lead, iron, and manganese, with black and variegated marbles, large masses of gypsum in the lower carboniferous formation, plumbago, and petroleum. Peat and shell marl abound at many parts on the surface. A large tract of country is spread over by rocks of carboniferous age, but it is still doubtful whether they contain seams of coal sufficiently thick to be of commercial value. There are but three places where mining has been seriously attempted—the Terra Nova Mine, in Little Bay, or Bay Vert; the Union Mine, at Tilt Cove, in Notre Dame Bay; and La Manche Mine, at the head of Piacentia Bay. Copper ore in association with iron pyrites is produced at the two former localities, and galena or sulphuret of lead from the latter. The Terra Nova and Union Mines are situated in the Lower Silurian system. It appears that in the Western Basin of Canada the equivalents of the Caradoc and Tremadoc series occur; in the Eastern Basin, the equivalents of the Llanelli and Lingula flags; and in Newfoundland, the Llanelli, the Tremadoc, and the Lingula flags. The ore deposits at Tilt Cove occur under conditions strikingly similar to those known in Eastern Canada, and appear to characterise rocks of contemporaneous origin. Mr. Murray considers that the immediate neighbourhood of the serpentine rocks, wherever they may be found to exist, will be the most probable position for the copper miners' labours to be crowned with success. The experiment of the Union Mine has, so far as it has yet gone, proved eminently successful, and as the indications on the east side of Winsor pond exactly correspond with those on the west side, where the work is proceeding, it is but reasonable to infer that a vast amount of ore may be extracted from the same deposits beneath the pond, and further on in the strike on either side. At the Terra Nova location the experiment of mining has not hitherto proved remunerative, but its position in relation to the serpentine may be regarded as favourable, and worthy of more extended trial. The metalliferous stratum upon which the principal shaft has been sunk, and upon which the drifts are driven, appears chiefly to consist of an enormous mass of iron pyrites, with an occasional admixture of yellow sulphuret of copper. Native copper has been observed occasionally in small quantities among the serpentine. The ground is by no means thoroughly proved, although a very large amount of labour and expense has been bestowed on the surface. The climate of Newfoundland is not by any means so severe as is generally supposed, whilst the fogs which have been said to envelop the whole island almost eternally have but a limited existence in the interior, and are not by any means prevalent on the northern or western shores. In an appendix to Mr. Murray's report it is stated that the prospects of the Union Mine are of a highly encouraging nature. The production of copper ore has been accumulated during winter 1866-7, and shipped for Swansea up to August last, 2299 tons; ore on the floors ready in the mine, 500 tons—3880 tons; and if the necessary shipping be supplied the total amount of ore exported for the season will not be less than 4000 tons. In working out this the masses of ore have in

no one case been exhausted, but simply driven through, and the material extracted from the drifts, the proving of the ground being carried on all the time, and constantly exhibiting new and most important masses; the ore now in sight being sufficient in itself to supply a supply at least equal to that of the present season for several years to come.

MINING, METALS, AND MINERALS—PATENT MATTERS.

BY MICHAEL HENRY,
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According to the invention of Messrs. THWAITES and CARBUTT, of Bradford, and STURGEON, of Barley, Yorkshire, the tip, or moving part, of steam-hammers, is made of the form of a cross-beam, the necessary motive-power being applied thereto at or near the extremities and on each side of the anvil-block. Several modifications in detail for carrying out this arrangement are described, and it is claimed that with this arrangement a much lighter foundation, plate, or base, is required, and the necessary framework is required, as the framework has only to steady and guide the tip, and not to carry the cylinders as usual. The piston-rods may be made to pass entirely through the cylinders, so as to obtain increased guiding surface.

The invention of Messrs. MULLER and MATHEI relates to the production of the so-called atmospheric gas. The inventor proposes to carbonate the atmospheric air, by causing it to pass through serpentine chambers, containing cotton saturated with the volatile hydrocarbons, which it has been considered unsafe to apply to illuminating purposes in the lamps hitherto employed for burning paraffin and similar oils. The saturated cotton is disposed in chambers formed above each other in a circular vessel, the trays or divisions forming the chambers being alternately perforated in the centre and round the periphery. The perforations are rather above the bottom of the trays, so as to allow each tray to hold a sufficient quantity of the hydrocarbon fluid to keep the cotton damp.

The invention specified by Mr. G. W. F. RUSSELL, of Piccadilly, relates to a modification of that gentleman's former arrangement, already described in the Journal. Instead of the spokes being formed so that their inner ends might form a complete circle round the hub, the spokes are so formed that a space shall be left between each spoke, which space may be filled up with wedges slightly tapering from the hub, so that the spokes and wedge are always tending to lighten each other, the discs, or plates, are placed on each side of the spokes, as before, and the spokes, the fellos, end of the spokes, and take a tenon upon the end taken into a mortice and the fellos. At the mortice the narrower than the round hole formerly used, increased strength is obtained.

The gas-engines invented by Mr. A. MCCALLUM, of Greenock, are constructed on the principle of the hot-air engines invented by Schwaetzkopf, and others. Compressed gases, however, are employed in lieu of air; they are expanded by heat, and after passing through the cylinder are cooled and condensed. They are thus capable of being continually re-used by alternate expansion and condensation. It is proposed to effect the expansion by heating with steam or otherwise.

Amongst the recent applications for patents the following may be mentioned:—WITTHINSHAW and BAKER, pumps and blowing-engines; WILSON, boilers; WRIGHT, heating; NEWTON, preparing iron; BUTLER, rolling hoop for brewers or other uses; BUCKINGHAM, apparatus for regulating the feed of steam-boilers; THIERRY, smoke-consuming apparatus; CANNHAM, rollers for consuming gas, and ovens to be used therewith; PEARCE, furnaces and fire-grates.

FOREIGN MINING AND METALLURGY.

We have no very striking fact to record this week in connection with foreign metallurgical affairs. The suspension of obligation interest by the Northern of Spain Railway may be said to give the *coup de grace* to the work of railway extension in Spain for the present. On the other hand, the large purchases of grain which are being made in Hungary have had the effect of reviving and strengthening Hungarian credit; and taking advantage of this circumstance, M. Langrand-Dumoucau, a celebrated Belgian financier, has brought forward a scheme for an Austro-Hungarian Railway—from Kaschau to Oderberg, with a branch from Abau to Eperies. The length of line proposed to be constructed is 225 miles, and Belgium will, of course, have a preference in the supply of rails and plant. Whatever delusion may have obtained in some minds with regard to the formidable nature of Belgian competition, any fears on the subject must have been dispelled by the recent course of events, Belgian industry generally having displayed a considerable amount of languor of late. The Belgian Banque de Crédit Foncier et Industriel is concessionnaire of the Austro-Hungarian network, by the terms of a convention concluded at Vienna, Aug. 31, 1867; and the new line is proposed at a very opportune period, as the reputation of M. Langrand-Dumoucau stands high for energy and ability, and any project launched under his auspices may have the effect of giving a stimulus to affairs. It is understood that the new line would come near Oderberg upon a considerable coal mining district, ironworks, copper, nickel, &c., in the comitat of Goemur, &c. The Hoerde Mines and Ironworks Company will pay Jan. 2, 1868, a dividend for the exercise 1866-7 at the rate of 9 per cent. per annum. Meetings are announced as follows:—Vesdre Mines and Blast-Furnaces Company, Oct. 19, at Liège; Austrian Company for the Manufacture of Chemical and Metallurgical Products, Oct. 19, at Vienna; Saxon Company for the Manufacture of Steel at Döhlen, Oct. 19, at Dresden; Central Belgian Rolling Mills Company, Oct. 21, at Louvrière (St. Vaast); Austro-Belgian Metallurgical Company, Oct. 21, at Corphalle, near Huy; Centre of Gilly Collieries Company, Oct. 22, at Gilly; John Cockerill Company, Oct. 23, at Seraing; Vieoigne Mines Company, Oct. 28, at Valenciennes; Phoenix Mines and Ironworks Company, Oct. 30, at Laar, near Ruhrort; Bois Colliery Company, Oct. 31, at Quaregnon; and Sars-Longchamps and Bouvy Collieries Company, Oct. 31, at St. Vaast.

The imports of English coal into France in the first eight months of this year compare as follows with the imports in the corresponding periods of 1866 and 1865:—

Months.	1865.	1866.	1867.
January.....Tons	125,106	152,465	159,312
February.....	114,269	132,732	173,735
March.....	122,106	150,201	151,845
April.....	139,549	141,073	172,410
May.....	121,910	171,315	191,285
June.....	129,178	171,203	178,171
July.....	142,584	155,135	192,012
August.....	137,167	168,369	167,482
Total.....	1,065,869	1,242,494	1,395,992

The imports thus presented a decided progress in every month except August, when they experienced a certain check. The Mokta-el-Hadid Magnetic Iron Minerals Company will pay, Nov. 1, interest on its shares for the first half of this year, at the rate of 5 per cent. per annum. The Commentary Collieries and Fouchambault, Montignon, Torteron, and Pique Forges and Foundries Company is paying the balance of the dividend of 1865-6, or 14*s.* per share. The St. Etienne Collieries Company is making a provisional distribution for the first half of 1867, or 4*s.* per share. Meetings are announced as follows:—Andalusian Copper and Lead Mines and Foundries Company, Oct. 17, at Paris; Fives Lillie Company, Oct. 26, at Paris; and Epinae Collieries and Railway Company, Nov. 11, at Paris.

Some activity has prevailed in copper at Havre, but at Paris and Marseilles the article has remained neglected at former rates. At Havre some transactions have taken place in Chilean bars at 70*l.* 10*s.* and 70*l.* per ton; since then the market has hardened, and the sale is mentioned of 20 tons of disposable at 70*l.* 10*s.* per ton, Paris conditions; the market closed with a firmer tendency. The stock of copper on the Havre market comprised, at the close of September, 140 tons of United States, 3770 tons of Chilean bars, 430 tons in ingots, and 100 tons from various sources, making a total of 4140 tons, or of pure copper 4370 tons, against 4150 tons Aug. 31, and 4260 tons Sept. 1, 1866. The German copper market has continued quiet, sales being limited to the daily requirements of consumption. The direction of Spanish State lands announces the sale at Seville, Oct. 26, by sealed tenders, of 2000 metric quintals of copper from the Rio Tinto Mines. There has been less activity in tin on the Dutch markets, and, with the exception of very slight variations, the article has remained unchanged on the secondary markets. At Rotterdam the demand has much fallen off, and Banca has given way to 54*s.* and 54*s.* 1/2; Billiton has also retrograded from 53*s.* 1/2 to 52*s.* 1/2. At Paris, Banca is quoted by continuation at 97*l.*; Straits, 94*l.*; and English, 93*l.* per ton. Lead presents little change. The direction of Spanish State lands announces the sale, Oct. 24, of 42 tons from the Linares Works. Tin has remained quiet on the Hamburg market; at the same time, holders maintain an attitude of reserve, and refuse to make concessions. Similar reports are made from Breslau and Paris.

The Austrian Railway Company's report for 1866-7 gives some interesting details on the mines and ironworks under the company's control. The production of mineral combustible in the company's mines in the Banat and Bohemia attained a total of 447,894 tons in 1866, showing an increase of 64,965 tons as compared with 1865. The sales of last year amounted to 431,183 tons, or 67,880 tons more than in 1865. The sales of last year may be subdivided as follows:—To the public, 296,008 tons; to railway companies, 109,613 tons; and for local consumption and the service of the company, the balance of 45,564 tons. The sale of Klado coal fell off last year to the extent of 373 tons as compared with 1865; this total shows, however, only little importance, if we take account of the perturbation occasioned in business by military events, the consequences of which were only attenuated by an exceptional revival in the demand for combustible last winter. This revival was, however, of little importance, as the administration was bent on pushing the extraction of 800 or 900 tons of coal per day, and this, upon the whole, the production of the Klado Mine in 1866 exceeded that of 1865 by 8675 tons. The concentration of working operations at Klado by the abandonment of the Arandabisi pit promises more and more advantageous results; this anticipation is confirmed by the working of 1866. At Sobochleben some progress has been realised in the working of lignites; this progress would have been more sensible but for events which reduced for two and a half months the production of the mine at the only local sale point. The production of Sobochleben increased last year 19,391 tons, and the sale 18,683 tons, as compared with 1865. At Steyrdorf, the supply of all local wants for some time to come. The state of the company's coal mines and metallic mines has experienced no sensible change during the last few months. At Orayitz, mining works have been suspended. At Dognascka and Szaska, which are favourably circumstanced as regards metallic production, the working has been continued, and has given results comparable to those of

preceding years. A very well-sustained activity prevailed throughout last year in the company's ironworks. The production of the Dognascka works was 2937 tons of various charcoal-made pig. The production of the Anina, where only a single furnace was maintained in blast, was 5778 tons of coke-made pig last year; 283 tons of castings were also turned out last year. At Reschitz, where all branches of the service have nearly attained their maximum activity and production, the results attained last year were of a satisfactory character. The three blast-furnaces produced last year 10,145 tons of pig of various kinds, and the foundry delivered 1998 tons of castings. The production of the iron manufacturing last year was—Merchants' iron, 2592 tons; plates of every description, 2338 tons; worked iron, 203 tons; rails, 1835 tons; tyres, 779 tons; mining rails, 464 tons; and miscellaneous articles, 303 tons; total, 8424 tons. The directors are studying the best means for developing the production of this industrial centre, the products of which are more and more appreciated on the market. The introduction of the Bessemer process can scarcely fail to greatly modify the conditions of the present working. As already indicated, only a single blast-furnace was maintained in activity last year at the Anina Works. This suspension was dictated by two facts—first, the almost complete suspension of railway construction in Austria; and, secondly, because the company had accumulated a sufficiency of materials for two years at least. Now this state of affairs has greatly changed, the company's stock of rails being exhausted, while new lines have been undertaken in various parts of the Austrian empire.

REPORT FROM SCOTLAND.

Oct. 16.—The return of "bulls" and "bears" to our Pig-iron market, after sixteen months' absence, necessarily galvanised prices for a time, and sent them bounding upward, though only in advances of 1*l.* 4*s.* a ton at a time; and there is still hopes that warrants will reach the maximum which was predicted of the season—57*s.* 6*d.* per ton. Our closing price last week was 54*s.* 7*d.* a ton, but our parcel was scarcely twelve hours closed when a "bull" entered the market, and purchased right and left. The reappearance of such a *lusus nature* naturally first excited the market, and then prices gradually began to move upwards, till they reached 55*s.* 3*d.* cash, 55*s.* 4*d.* a month. If the market is again "rigged," the holders are much more likely to be gainers now than they were on the previous occasion, as stocks are low, and the quantity to operate upon is more limited. The make is also limited, as the following list of furnaces will show:—

Works.	Blowing.	Out.	Butt.	Works.	Blowing.	Out.	Butt.
Gartsherrie	13	3	16	Shotts	3	1	4
Coldness	9	3	12	Omoas	2	2	4
Snarwater	6	2	8	Wishaw	3	0	3
Dundee	1	1	1	Monkland	7	2	9
Langloan	5	3	8	Chapelhall	4	3	7
Govan	2	3	5	Clyde	2	1	3
Calder	6	2	8	Clyde (Quarter)	0	3	3
Carnbroe	4	2	6	Castlehill	0	3	3
Total.....	111	61	172				

From this statement it will be seen that less than two-thirds of the furnaces are at work, the other third being quite idle, but could be put into operation in most cases at a week's notice. The prices which have been obtained this year have also been low, when compared with those of former years, and the averages were, as compared with last year:—

Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.
1867.....	54 <i>s.</i> 4 <i>d.</i>	54 <i>s.</i> 9 <i>d.</i>	52 <i>s.</i> 7 <i>d.</i>	52 <i>s.</i> 0 <i>d.</i>	53 <i>s.</i> 3 <i>d.</i>	53 <i>s.</i> 7 <i>d.</i>	53 <i>s.</i> 0 <i>d.</i>	54 <i>s.</i> 3 <i>d.</i>
1866.....	60 <i>s.</i> 4 <i>d.</i>	71 <i>s.</i> 1 <i>d.</i>	77 <i>s.</i> 1 <i>d.</i>	78 <i>s.</i> 2 <i>d.</i>	57 <i>s.</i> 0 <i>d.</i>	53 <i>s.</i> 9 <i>d.</i>	52 <i>s.</i> 11 <i>d.</i>	52 <i>s.</i> 6 <i>d.</i>

The shipments for the week just ended are short of the corresponding week of last year fully 1600 tons, the total being this year 11,180 tons, against 12,875 tons in the same week of 1866. An active market to-day, and as "bears" try to purchase they find warrants cannot be had, being already greatly oversold. Prices, 55*s.* 3*d.* to 55*s.* 6*d.* cash; 55*s.* 7*d.* a month, closing buyers 55*s.* 4*d.* cash, sellers 1*l.* 4*s.* more. No. 1, g.m.b., 55*s.* 9*d.*; No. 3, 54*s.* 6*d.*; Gartsherrie and Coldness, 61*s.* 6*d.*; Calder, 59*s.* 6*d.*; Eglinton, 55*s.*

The Bar Ironworks are still keeping their machinery going briskly, but the orders are getting rather more scarce, and some of the makers are beginning to fear that the demand is becoming exhausted; others are more hopeful, and do not think that the last of the orders have got into hand, and are in course of being finished. With forebodings like these in the minds of some, prices cannot advance, and so we have still to quote them as without variation. Coal shipments are heavy, and show a very large business during the week, several heavy cargoes being for the East. From all the Scotch ports the returns give a total for this week of 40,050 tons, against only 27,230 tons, being an increase of 12,820 tons. The home demand is limited, and prices are drooping. The colliers in this district are about to agitate for a rise, and a meeting for this purpose was held on Saturday evening. The miners in the other districts are quiet, the general dullness of trade acting as a damper on their aspirations for an advance.

Some of our iron shipbuilders, whose operations have till now been confined to steamers, are entering into contracts for the construction of iron sailing vessels, which will greatly aid the industry of the Clyde, and absorb the labour of some hundreds of our working athletes. Of the launches this week is a twin screw, named the Goya, the property of the Parana Steam Navigation Co. Her engines will be inverted cylinder geared, of 90-horse power nominal.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

Oct. 17.—There is very little that is noteworthy to be stated with regard to the Iron Trade of Derbyshire, which continues rather quiet, although there is a more healthy tone pervading the district. Gas and water pipes, as well as general castings, are in moderate request, but there is no activity discernable in the manufacture of rails, plates, or sheets. The Coal Trade continues good, and there is a very fair demand for household and gas qualities, the principal collieries sending large quantities to London and other southern depôts, as well as into Birmingham, Gloucestershire, and Worcestershire. From Clay Cross alone nearly 1000 tons were forwarded daily to London, and nearly as much to other localities, which speaks well for the growth of that district, seeing that before the North Midland Railway was completed not a ton of coal was sent across the ridge. The new collieries being opened out will add very largely to the productive capacity of North Derbyshire, which, although almost entirely dependent on the railways for the disposal of its produce, has yet some important advantages, not the least of which is its greater proximity to the London and southern markets than is South Yorkshire, its principal rival, and between which there is a difference of fully 20 per cent. in the carriage rate. In the Burton-on-Trent district there is very little alteration in the state of affairs, and so far there is no prospect of the men returning to work on the conditions required—that of giving up all connection with the Union. Although some slight inconvenience has been experienced by the withdrawal lately of a number of men, who, although belonging to the Union, were allowed to work at several of the collieries, yet it will not be of a permanent character, as plenty of hands have been offering their services from the adjoining county of Stafford, provided they can be ensured the necessary protection. At present the railway stations and the collieries are surrounded by pickets, who use every means to get colliers coming into the district to return again. As a necessary consequence the police force in the district has been largely augmented. Undoubtedly the great event of the week has been the hearing of the appeal of Mr. Hooper, the secretary of the Miners' Association, who on Monday week was convicted of intimidation, and sentenced to a month's imprisonment. The appeal was heard at the Derby Sessions yesterday, when Hooper having acknowledged, through his counsel, that he had done wrong, and promising not to do so again, but to use his influence with the men to prevent the recurrence of similar annoyances as had taken place, the conviction was not pressed. Whether the lenity thus shown will be appreciated remains to be seen.

The Sheffield Trade continues quiet, but there is some prospect of a change for the better as the season advances, more particularly in some of the heavy branches, including heavy plates. Locomotive engines and rails are also in good request, and the same may be said with regard to girders and tyres. Steel rails continue to be largely manufactured, this department being in a better state than almost any other.

A strike at the Holmes Colliery, near Rotherham, which it was feared would take place this week, has been averted. The immediate cause of complaint was that more men were employed in the various working places than admitted of all of them getting a fair day's wages. Through the intervention of Mr. Normansell, and the conciliatory manner of Mr. Philip Cooper, the manager, matters were hedged over for the present. The South Yorkshire Coal Trade continues moderately active, although there is not such a large demand for London and the South as there was a fortnight since; so that the extra trains put on by the Great Northern have been discontinued. Silkstone house coal and gas nuts continue to be enquired for, and one or two of the collieries have as many orders in for the season as they are in a position to supply. A good business continues to be done by the Manchester, Sheffield, and Lincolnshire Railway to the cotton and machine districts of Lancashire, including Gorton, Manchester, Stalybridge, Hadfield, &c. The Iron trade in the same district is in a healthy state. At Elsecar the rail-mill which broke down a few days since is once more in active operation, and the men are now working shifts. At both the establishments of the Messrs. Dawes there is the greatest activity, and there is a large output of plates, sheets, hoops, and bars. There is also considerable activity in the machine and boiler departments, and the state of affairs at Milton and Elsecar is now in a more satisfactory condition than for some time past.

The work of clearing the Oaks Colliery proceeds rather slowly, but the preparations being made show that the opening out will shortly be commenced in earnest. To-day a part of the top of the cupola was taken off for the purpose of putting up the head gearing for drawing the spoil out of the shaft. The scaffolding down the No. 2 shaft will also be taken up, after a brick stopping is erected at the bottom, so that all three shafts will be open at the same time. The workings will then be explored as far as possible, and the roads made good, with a view to recovering the bodies.

The process will, no doubt, be a slow one, and it is expected that a considerable time will elapse before the places where the great number of the bodies may be expected to be formed will be reached. At the new pit, sinking at Ardsley to join the workings at Hoyle Mill, work has been suspended during the last day or two, owing to a large accumulation of water. Nothing, it is expected, will be done until pumps are put down for drawing off the water, which, it is said, is going on at the rate of nearly 100 gallons per minute.

An apparatus, the object of which is to dispense with manual labour in charging and drawing gas retorts, has been tested at Messrs. Handiside and Co.'s Britannia Foundry, Derby: it is the invention of Messrs. Holden and Best, and has been successfully applied at the Chartered Gasworks, London, and at one of the gasworks in Paris; that just tested being intended, with two others, for the Alliance Gasworks, Dublin. The invention consists in the employment of a wrought-iron carriage, constructed to run on rails laid in front of the retorts the whole length of the retort-house. Three long wrought-iron arms, or rakes, and three long scoops are carried by frames made to traverse the main carriage in the direction of the retorts. The apparatus is furnished with a pair of vertical high-pressure engines and boiler. The operation of drawing and recharging the retorts, including opening and closing the mouths, is effected by the machine in nine minutes, whilst about three-quarters of an hour is required without it.

THE MIDLAND RAILWAY EXTENSION TO BARNSELY.—The extension of the main line of the Midland Railway to Barnsley from Cudworth is now being pushed forward with the greatest activity, some portions of the line, which is scarcely five miles in length, being very heavy, including a viaduct 1022 feet long, the diverting of two roads and the making of a new street, whilst the line of rails is carried over the South Yorkshire at Barnsley, and stops a level crossing of the latter. In Barnsley the line passes through the town on a strongly-built stone pier, starting at the gasworks, and extending in length upwards of 400 yards, the rails being supported by cast-iron girders, light in appearance, but of great strength. The viaduct near to Hoyle Mill is probably one of the handsomest pieces of engineering on the Midland system. It commences on the Cudworth side in a picturesque and well-wooded spot, and, crossing Barnsley canal, passes along the fertile valley not far from the ruins of the ancient priory of Monk Bretton, and then spanning the Deane canal terminates within a few yards of the cupola shaft of the Oaks Colliery. Seen from almost any point the viaduct, from its lofty situation and light and airy appearance, the iron girders looking like mere lines when seen from a distance, is in the highest degree attractive. It consists of no less than 13 openings, 10 of them 60 feet in length, two 90 feet, and one 36 feet. There are three stone piers, one 40 feet, one 41 feet, and the third 10 feet long, with two abutments, one 45 feet, and the other 10 feet long. The greatest height from the ground is 86 feet, and the work is estimated to have cost from 30,000l. to 40,000l. The line will afford a new route, and open out fresh markets for the mineral produce of the district, and already a colliery, which when opened out will be one of the largest in South Yorkshire, is being sunk quite close to the line, and not far from the viaduct. Messrs. Bulter and Pitt, of Stanningley, near Leeds, are the contractors for the ironwork, and Mr. Oliver for the masonry.

REPORT FROM NORTHUMBERLAND AND DURHAM.

OCT. 17.—The Coal and Coke Trades here are pretty brisk, and the coal trade generally continues, on the whole, good. The price of coals at London and other ports has been increased lately, and the tendency is upwards here also, so that there is every appearance of a good winter trade for coal. With respect to the Iron Trade the prospect is certainly better, as there is a good demand for pigs, railway bars, and other iron, and the shipments from Middlesbrough and the Tyne have been pretty extensive lately. A large cargo of railway iron has lately been shipped at the Tyne Dock from the Walker Ironworks. With respect to the iron and engine manufactures of the district, they certainly are not so well employed as might be expected at this time of year, and the prospect continues dull, on the whole, for these works. Part of them are certainly kept moving on by colliery orders, but there appears to be no chance for a general revival of this great local trade until more activity takes place in the home and foreign trade of the country.

It is expected that some decided progress will shortly be made in removing the water from the Wallsend collieries, as the large pumping engines are expected to be on the ground this week, and they are to be applied for the purpose of pumping the water out of the old shafts. The scheme first resorted to, of sinking a new shaft near the old one, appears to have failed, owing to the influx of water, this water passing through the strata from the old shaft, and thus seriously obstructing the sinking.

The death of Mr. JOSEPH STRAKER took place on Sunday at the good old age of 83 years. He was the head of the well-known coke-making firm of Straker and Love, and he was well known not only for his extensive transactions in the coal and shipping trades, but also for his very remarkably kind and generous disposition, which was shown most conspicuously towards the old seamen and others belonging to the Tyne. Mr. Straker commenced his career as a cabin boy in a Tyne ship, and in due time became mate, and master. On leaving the sea he commenced business as a timber merchant, and by his skill and constant industry gradually became an extensive shipowner, and eventually an extensive coalowner also. He was, during several years, a Tyne Commissioner, and took an active part in all affairs connected with the trade and commerce of the Tyne. His partner in the coal and coke trade in Durham was Mr. Love, and the coke made at the extensive works, near Brancepeth, is well known on most locomotive lines, and also ironworks, in this country. The great struggle between the men at these works and their masters will be recollected. Mr. Straker was also part owner of several large collieries in Northumberland. His decease will be much regretted by all classes, and especially by the working classes, whose true friend he always proved himself. Mr. Straker leaves two sons, Mr. George Straker and Mr. John Straker, who will succeed to his ample fortunes, and, to a great extent, fill up the important position he occupied.

The foundation stone of a new Mechanics' Institute was laid at Crook yesterday, by that most indefatigable and constant friend of the working man, Mr. J. W. Pease, M.P. It appears that Crook forty years ago was a very small village, but, by the increase of collieries and iron-works in the vicinity, it has increased very rapidly, until it now assumes the dimensions of a city, and hence the necessity for a building like this. Crook is now the centre of a most busy and thriving district. Mr. Pease remarked that he recollected a time when the gross rental of the property in it was 700l. per annum; now the gross estimated rental is 23,000l. He knew the time when the population numbered 300 or 400 people, now there are 10,000 persons in the township. Crook has long possessed a Mechanics' Institute, but it proved too small for the increasing population, and a new one is, therefore, to be erected, at a cost of about 1200l. The signs of progress are very apparent and cheering in and around Crook, not only in progress in numbers and in material wealth, but also intellectual growth, as many excellent schools are in operation, and these are well attended, and also well conducted.

REPORT FROM MONMOUTH AND SOUTH WALES.

OCT. 17.—The Iron Trade has not altered its position to any material extent during the past week, and many of the workpeople are still on "short time." The orders given out at the commencement of the present quarter will, upon comparison with those of three months ago, show a slight excess, but as yet it is too early to form anything like an accurate judgment as to what specifications will be offered. At present the orders in hand will not be sufficient to keep the workpeople fully employed, but will be adequate for them to be on quite as much time as they have lately been. It is pretty generally known that there are few new lines of railway to be brought before Parliament at the present season, and it cannot be said that the existing companies have sufficiently recovered from their financial difficulties to enable them to come into the market with orders to any considerable extent. For the past two or three weeks railway securities have considerably improved, though it cannot be expected that the traffic receipts will continue to present such a favourable increase as they have lately done if the trade of the country does not improve. Some of the leading railway companies are known to require large supplies, the railway mileage at present requiring relaying, and repairs of various descriptions, being larger than ever known, and the renewal of permanent way in a matter which will be impossible for them to lay aside for an indefinite period, but they will be compelled to make large purchases of rails and other materials before any lengthened period has elapsed. The home trade for bars and the miscellaneous descriptions has somewhat improved, and prospects are held to be encouraging. Little or no alteration has taken place in the enquiries on foreign account, and the exports continue on rather a large scale. India, Russia, and the United States will require considerable quantities of rails, and as they have hitherto been good customers it is expected that they will continue to be so for some time to come. Several heavy Russian orders have been secured by Belgian houses, but this competition was to a great extent, foreseen, and has not occasioned any very great surprise. The quantity of rails taken by Russia from South Wales has been unusually large, and, despite the competition of continental makers, the Muscovite empire is likely to be a heavy customer again next year. Exports to the United States are tolerably good, and the enquiries made lead to the belief that the American demand will probably increase to a considerable extent. For tin-plates the demand still continues good, and the hands are fully employed at nearly all the works, and there is every prospect of their being so throughout the winter.

The position of the Steam-Coal Trade here is alike satisfactory to proprietors and merchants, and the improvement which lately set in continues unabated. Prices are tolerably well maintained, and although a considerable impetus has been given to the demand, proprietors show no disposition to resort to underselling, which is too often had recourse to in times similar to the present. From the Continent there is about an average demand, and the same may be said of the mail-packet stations, for which places there is a probability of considerable quantities being required, and more especially so if the Abyssinian expedition extends over any lengthened period. For house coal there is a fair coasting trade being done, and in account of the growing coldness of the weather the inland consumption will very considerably increase during the present month.

Additional evidence of the high esteem in which Nixon's Navigation Coal is held has been furnished in the circular just issued from the Admiralty, relating to future trials of Her Majesty's ships on the measured mile. With regard to the fuel to be employed, it is directed that the coal used should be hand-picked, and of the best quality of Nixon's Navigation Coal. When ships which have new engines not

yet received from the contractor are under trial at the measured mile, the engines and boilers during the trial are to be under the charge of the contractor, or of his agent, who is to have the whole responsibility and management; but it is to be clearly understood that the trial is to be conducted in strict accordance with the regulations laid down for all trials at the measured mile; and the engineer officer from the factory, and the chief inspector of machinery of the reserve, will each, at all times, be responsible to the captain of the reserve that these regulations are never deviated from. Engine contractors are to be allowed such preliminary trials under way as they may consider necessary to get the engines in proper order for the official trial.

FOREST OF DEAN.—Few seasons at this period of the year, for several years past, have come and gone without signs of railway extension for the Forest and district. This year, however, appears to be an exception. It is said that variety is charming. Let us hope that, in the absence of "railway notices," engineering gentlemen and their host of satellites—a terror to agriculturists, and a bane to the old-fashioned—other steps may be taken for the weal of the Foresters. Other "signs" are certainly encouraging. A scheme more or less calculated to interest the district is the laying of the narrow gauge rails on the Hereford, Ross, and Gloucester branch. Not that any immediate benefit will accrue, but when the Monmouth, Worcester, and Dean Forest line is made, and which is intended to cross the Hereford line, near Mitcheldean-road station, the Coleford, and indeed other parts of the Forest of Dean coal field, will be placed in a more direct and accessible line with neighbouring towns, the inhabitants of which are numerous, and, indeed, the principal customers for Forest coal. Relays of railway men have commenced plying in the necessary sidings. As the Hereford line is only a single one, it is obvious that there will have to be increased room for trains to turn out. The "May Hill scheme" has not yet been attended with any degree of success. The sinking operations are prosecuted with considerable vigour. As stated a fortnight since, a coal field at this spot would prove an invaluable treasure, and would supplement other Gloucestershire coal fields. It is, however, feared the "May Hill scheme" belongs to the "forlorn hope" kind, as the shaft (although but a few feet from the old one, in which it is stated a seam of coal was found at 35 ft.) is now 50 ft. down, and there is no indication of coal or any gaseous substances. The principal promoter is Mr. Benjamin Stephens, an old collier, but who now is better known as the "Forest Spurgeon," having obtained considerable popularity as an expositor of religious doctrine, and who for some years past has been fortunate enough to have "his lines fallen in pleasant places" than of old.

The district Iron Trade will not be very considerably benefited by the ironmasters' meeting on Oct. 10, although a slight advance took place. The result of the meeting was not, however, of the worst kind; on the contrary, a degree of hopefulness characterised the proceedings, likely ere long to be consummated by a rise. The Forest of Dean was well represented. There are plenty of orders making their way into the Forest, and the works are well employed.

The Tin Trade is not less favourably placed, a long run of good orders have kept the mills in full work. For many months the branch has shown more than ordinary activity, and it is expected that the fall of the year will not be less satisfactorily marked in the tin-plates than the preceding spring and summer. Prices remain unaltered.

In household and other coal considerable vitality exists, and should other collieries be opened, as unquestionably ere long efforts will be made to do so, sufficient orders will find their way to the Forest to keep all employed. It was intended by Mr. Crawshaw some time ago to have sunk a new shaft to reach his coal connected with the Lightmoor Collieries. This has been obviated by the erection of an engine at the bottom of the Lightmoor Pit, by which means the coal will be drawn freely to the extent of the workings.

The "road" in the pit now renders horse-power almost useless. Mr. Crawshaw has recently purchased a valuable iron ore mine, near Clearwell, and a singular instance of fortune is related in connection with it. Some few years ago, a poor man, named Kear, dug some mine at Clearwell Common, and worked it himself, using short ladders from stage to stage. He became tired, and offered the mine to a person named Stephens, a tanner in the same village, for 30l. Mr. Stephens sunk a shaft, and let his rights, the royalty of which brought him a good annual income, and it is further reported that now it has become Mr. Crawshaw's property for 18,000l. The original owner at the present time obtains his living by hawking matches. There are large quantities of iron ore in the district of Clearwell, and now that Mr. Crawshaw has an interest in the same neighbourhood around will realise the benefit of his wealth and speculative spirit. The working classes here are almost electrified at the rapid rise in flour and all kinds of meal. The 4-lb. loaf is being sold at 9d., and flour 12s. per bushel of 56 lbs.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

OCT. 17.—There is no new feature in the Iron Trade, but the continued advance in the price of wheat is likely to exercise a serious influence on the country, in checking the recovery of trade, and in increasing the sufferings of a population already only partially employed. At the Quarter Sessions for this county, on Monday, the question of increasing the police force was discussed, and Mr. John Hartley (of G. B. Thorneycroft and Co.), representing South Staffordshire, and Colonel Roden, who is managing partner in the extensive ironworks of Earl Granville in North Staffordshire, both spoke in serious terms of the prospects of the ensuing winter. There are as yet no signs of the strife between the Unionist miners in South Derbyshire and the employers being healed. During the week Mr. Thomas Evans, of Manchester, has been lecturing against Trades Unionism at the People's Hall, Church Gresley, and the prominent supporters of, and officers in, the Union of miners have discussed the question with him after his lectures. Since the last defeat of the men in Staffordshire the Union has received far less support than it had previously secured, and as has been stated, an attempt to unite all the ironworkers of the kingdom into one great confederation failed, two distinct organisations, with centres at Gateshead and Brierley Hill respectively, having been renewed, after an amalgamation had been concocted. One cause of difference was that the Gateshead body employed a paid president, which the South Staffordshire men regarded as unnecessary. Mr. Kane, the president of the Northern Ironworkers' Association, has been visiting Staffordshire this week, with a view to revive Unionism, and also to cement anew an amalgamation between that district and Staffordshire. He has announced that the office of the association, of which he is president, shall be at Walsall, so as, if possible, to draw all to one centre. He invited the secretary of the Brierley Hill executive to meet him, but that request has not been responded to.

Mention was made some time ago of efforts to adopt for the towns of North Staffordshire which lie along the valley of the Trent, and one of its affluent, a general out-fall sewer, which might receive and convey to a surface of agricultural land the sewerage of the whole district, which at present falls into the Trent, and pollutes that stream most foully as it passes through the beautiful grounds of the Duke of Sutherland, at Trentham. Another important question for these towns is the consumption of smoke under the recent Act. To consider these two questions, a conference of town authorities met on Wednesday afternoon, at the North Staffordshire Hotel, at Stoke-upon-Trent. The Smoke Question was discussed with an evident earnest desire to mitigate to the fullest extent the great evil from which those suffer who reside in the neighbourhood of large works from the pollution of the air. The Town Council of the borough of Hanley have taken up the question with spirit, and made extensive enquiries in other places, and the results have been such as to give great encouragement to hope that the evil might be greatly reduced by the adoption of suitable apparatus and careful attention to the principles on which it should be worked. Several of those present said that attention on the part of workmen was the most difficult thing to secure, and it was stated that in London, where an efficient furnace for consuming smoke is provided by the proprietor of a works, the man placed in charge of it is summoned for causing a nuisance by the emission of smoke. It is, however, right to say that the Mayor of Hanley, Col. Roden, who is mentioned above, did not take so sanguine a view of the success of smoke-consuming apparatus as some of the speakers. It was, however, generally admitted that engine-boiler flues, and what the potters call slip-kilns, might be at once required to consume their own smoke.

A resolution was ultimately carried, with one dissentient, recommending the various local governments in the Potteries to give notice that the smoke consumption clauses of the Sanitary Act of 1866 be put in operation forthwith in the cases of slip-kilns and engine and similar chimneys, and the consideration of the application of the provisions of the Act to pottery ovens and ironworks' chimneys was referred to the Chamber of Commerce and the Iron and Coalmasters' Association. A long discussion took place on the sewage question, in the course of which Mr. Snaith, borough surveyor of Hanley, advocated the dry-earth system for closets. The resolution was moved by the Rev. Sir L. T. Stamer, Bart., of Stoke, and seconded by Mr. Shaw. It recommends the authorities of the several Pottery towns to reconsider their mode of dealing with the night-soil, and especially whether it would not be desirable to substitute the dry for the water closet system.

Mention was recently made in the *Mining Journal* of a visit paid by members of the North Staffordshire Field Club and the Dudley Geological Society to the new colliery of the Cannock and Rugeley Colliery Company, and the Cannock collieries of Messrs. Maclean and Co., on Cannock Chase, and of the admirable nature of the plant and machinery. On Monday a second visit to the same workings took place, the South Staffordshire Mine Agents' Association mem-

bers of the two societies named above forming the party. They were equally gratified with the admirable arrangements for developing the extensive mineral estate of which the company has secured the lease, as were the visitors on the former occasion.

Another fatal accident from the bursting of the tuyere of a blast-furnace occurred at the Willington Furnaces, near Moxley, on Wednesday evening. Thomas Paine, a man 66 years of age, was at work at the furnaces, when one of the tuyeres burst suddenly, and blew the red-hot cinders all over him, from the effects of which he died about nine o'clock this morning (Thursday). It is surely true that some effort were made to see if the frequency of the occurrence of these frightful accidents could not be diminished.

INTERESTING MINING EXCURSION.

A second meeting of the Incorporated Association of Mine Agents of South Staffordshire and East Worcestershire took place on Monday, at the Cannock and Rugeley Colliery Company's new sinking at the north end of Cannock Chase, upwards of 30 members being present. There was a previous meeting held at the same place on Sept. 28, when, through the kindness of the company, Mr. Peake, their secretary, and Mr. Kenrick, their mining engineer, 65 members (including 15 ladies) of the North Staffordshire Field Club, the Dudley Geological Society, and the Mine Agents' Association, descended the pits, and spent a very enjoyable day, including the inspection of Mr. Maclean's new Cannel pits, on the Chase. The members, on Monday, arriving at the Hedsford Station, were kindly conveyed along the company's branch railway, nearly two miles in length, to the colliery, by their new locomotive, the Marquis, and set down at the pit bank of the colliery, being under the guidance of Mr. W. W. Kenrick, the mining engineer of the company, and Mr. Henry Johnson, honorary secretary to the Mine Agents' Association, and Mr. once secluded world, almost in hall of the grand old mansion, Beaudesert Hall, the company have pitched, not their tents, but their mining tackle, which is of a description not equalled in the whole South Staffordshire coal field. Here, everything that modern science could suggest has been adopted for the expedition, economical, and safe working of the black diamond on a very extensive scale. About two years have been spent in the winning of these coals, the amount of capital spent we do not pretend to say; but it was variously estimated by some of the visitors at from 50,000l. to 70,000l., and there was a unanimous expression of opinion that, with the very superior coal discovered, it ought not to be long in recouping the company their outlay.

There are two pits, 12 ft. diameter each, and 200 yards deep, to the celebrated "deep coal," having a double band in each pit, and each band carrying a two-decked cage—that is, there are four ropes, and each rope carries two tubs or corves, each tub weighing about 10 cwt., clear coal, looking weight. From our tubs loaded ones up in three-quarters of a minute; this would be at the rate of 20 miles an hour. The shafts are geared up with three wire-rope conductors to each cage, and the cages are on the tubular principle, and made by Mr. J. Edwards, of Wednesbury, and although they are two-decked, only weigh 13 cwt. each. They are considered a great improvement upon the old solid bar arrangement. The pit-head frames are massive deal, four-legged, with two back struts, and 14 ft. round rope pulleys.

There is a very powerful horizontal high-pressure direct-acting engine to each pit; the one called "My Lord" has a cylinder 30 in. in diameter, 5 ft. stroke, 13 ft. drum; and the other, "My Lady," 26 in. cylinder, 5 ft. stroke, 11 ft. drum, and are of the most modern and best construction for running at high speed. They bear the name of the eminent engineers Thorneycroft and Ward, of Burton. Between the two large engine-houses stand six boilers (and space for two more), 35 ft. long by 5 ft. diameter, and all nicely geared up with the necessary steam and feed-pipes, safety-valves, and are fed by one of Giffard's injectors.

After making an inspection of the other minor surface arrangements, as the smithies, extensive loading sidings, &c., the party of 32 descended the mine. With the exception of a slight temporary suspension of animation at starting from the top, and a sort of "catching at the breath" from the rapid descent, the party arrived safely at the bottom, not, however, to find themselves landed in a place nearly up to their necks in "mud and slush," but the very reverse. On landing at the pit bottom, they found themselves in a grand arched way of solid brickwork, about 12 ft. wide and 14 ft. high, and about 40 yards long, on each side of the pit bottom, and well-lighted from the top of the arch by suspended lamps, similar to the ordinary street lamps. Here lay the secret of being able to get so much coal per day up one shaft, for as far as the eye could reach loaded tubs stood ready to be sent up by the hundreds. Besides the two grand approaches to the pit bottom before referred to, there were four other roads leading into them, by which a constant relay of full ones could be poured in on an emergency. The changing of an empty tub for a full one is only the work of about two seconds.

The stabling for the numerous horses employed is of a very superior character, being enclosed on all sides—top, bottom, and sides—by strong walls, and roof being a series of arches sprung off cast-iron girders, the latter being supported by cast-iron columns. A railway runs through the stables at the back of the stalls, for taking in the provender and carrying away the manure, which is not allowed to accumulate beyond a day. They are well ventilated, drained, and lighted.

A very powerful furnace is constructed for the purpose of ventilation, having 90 square feet grate surface, with a vertical flue 9 ft. diameter lined with fire-brick rising from it up into the shallow coal at the top of the shaft, and the furnace, to prevent firing the coals. This furnace is capable of producing 120,000 cubic feet of air per minute, if necessary. The "deep coal" is on an average about 7 ft. 3 in. thick, much thicker than any yet sunk into in that neighbourhood, and was said by the parties present to be of a harder and better quality than any they had ever seen, having also a good roof and a good floor. The dip is about 1½ in. in a yard west, and, although the drivings have been extended about 70 yards on the main levels in each direction, only one minor fault has been met with. The workings in this seam are at present being worked outwards, or by "gob" roads, after leaving 50 yards of solid coal against the main level.

The main levels are 9 ft. wide, with a double tramroad in each. The quality of this coal is a very superior house coal, and finds its way to the Isle of Wight, the South Coast, Mid-Wales, and other distant places. The "shallow coal" is also in course of opening on a very extensive scale, and all the appointments underground are similar to those of the "deep coal." The seam is on an average 9 ft. 3 in. thick, being considerably thicker than the shallow coal is generally in that neighbourhood, and has a good roof and good floor, and contains both hard steam coal, good house coal, and gas coal; this seam lies about 20 ft. above the deep coal. Besides the two coals referred to, there are two other workable coals discovered in the sinking. The company expect to be able to raise 1600 tons per day out of these two pits, or 9000 tons per week; 25 cottages have already been built near the pits, and 50 others are in course of construction. The extent of the colliery is 3000 acres, and 1000 acres are expected to be gotten by the present two pits and plant. The lessor is the Marquis of Anglesy.

It may be worthy of remark that both seams are perfectly dry—not a drop of water is to be seen. A small engine and 9-inch pump are perfectly dry, and pumps the surface water. After the party had inspected the "shallow coal," the Marquis was in attendance, and conveyed the party back to the Hedsford Station, where, at the Anglesy Hotel, hard by, an excellent luncheon was served up by Mr. Eckret, and full justice was done to it.

Too much cannot be said in praise of the courtesy and kindness shown by the company and their agents in affording so great a treat to nearly 100 scientific and practical visitors, who were permitted to pass through the mine and over the works, and contracts favourably with the old exclusive mode of opening out all enquiry and inspection of newly-developed mines. The development of this end of the coal field cannot fail to be of great advantage to the district, more especially as the recent explorations in the south end of the coal field have so signally failed.

COAL-CUTTING MACHINERY.—The invention of Mr. ANDREW HOWAT, of Farnworth, near Bolton, consists in employing one or more cutters, which are propelled against the coal by a piston fitting in a cylinder. The piston and cutter are independent of each other, and the piston is acted upon by steam or compressed air, which is admitted into the cylinder by a suitable valve, the valves being acted upon by a tappet wheel and levers. The piston and the cutter, after the blow has been given, are brought back to their original positions by a spring, or the piston and cutter may be brought back by steam or air, instead of a spring. A spring is placed inside the cylinder to hold the piston against the end of the cutter bar. During the return stroke of the piston the air or exhaust steam makes its escape through a side passage in the supply valve. The cylinder or cylinders, and the cutters, are mounted on a stand connected by universal joints or otherwise, to a frame with wheels running on rails in the mine; and as the frame is pushed forward, the cutter or cutters make a horizontal groove of any required depth and length in the face of the coal. The same machine may be used for cutting vertical grooves in the coal. After the requisite grooves are cut the coal is got out in the usual manner.

RATING OF COLLIERIES.—In the appeal case heard at the Glamorganshire Quarter Sessions (the Great Western Colliery Company v. the parish of Llantrissant), it was stated that a great difference existed in the county as to the value upon which collieries were rated, and the principle adopted, for whereas collieries near Swansea and Neath, which were only a few miles from the sea, were rated at from 6d. to 7d., collieries in the interior of the county were assessed at 13d., and it was consequently very desirable that some general principle should be adopted applicable to collieries generally. Mr. Coleridge, for the company, cited the case of the Southampton Dock Company, which he contended was an analogous case, in which it had been ruled that the interest upon a certain steam-tug belonging to the company, used for the purpose of bringing vessels into the dock, must be allowed. The counsel contended, therefore, that the interest upon the movable plant of a colliery should be allowed, that being in the same category as the steam-tug of the Dock Company. After considerable discussion between the learned advocates, the following points were agreed to, and the case thereby materially shortened. All the computations had been made upon the short or ordinary ton. That the amount of coal raised in the colliery for the year 1866 was 112,000 tons. That of this quantity the large coal raised amounted to 46,771 tons, brush 9562 tons, and small coal sold was 31 tons. That the average cost obtained by the sale of the coal was 2s. 10d. per ton, calculated at per short ton. The principal points at issue, therefore, were the cost of getting the coal to the pit mouth, and that the 53,540 tons used by the appellants at their colliery were not of the small value stated by them. The respondents alleged that this coal was of more value than the small coal sold to the works. Mr. Lewis being recalled, stated that he claimed deductions for the necessary working of the col-

very amounting to 5s. 5d. per ton. The selling price of the coal at the colliery for the year 1866 was 4s. 10d. per ton, there being thus a loss of 7d. per ton, exclusive of royalties and dead rent. If he had to assess this colliery he should be at 9d. per ton. That was for both parishes, the company's property being situated partly in Llantrisant and partly in Llanwano. The case was being adjourned to the 19th inst. on Wednesday evening, and its further hearing was adjourned to Cardiff, the day to be fixed by the advocate seenged.

MINING NOTABILIA.

GREAT VOR.—The prospects are now much brighter than for a long period. The bottom level (the 204, west of Metal shaft) has considerably improved; and, from the bearing of the lode, it would appear that much of the rich lode that disappeared below the 184 fm. level is standing north of the present workings.

NORTH CHIVERTON.—The lode, so far as seen below the 80, shows every indication of improvement in depth.

CARNARVONSHIRE CONSOLIDATED.—Some of the directors visited this mine on Saturday last, and were well pleased with what they saw, both above and below ground. The machinery and plant are in good working order, and the newly-discovered lode at Codd Mawr Pool is making good returns of lead, 30 tons of which have been sold during the week, at 111. 17s. per ton. Captain Kito is resuming all the workings, including the driving of the deep adit, to drain the mine, and a fresh discovery has been made at Pencraig; indeed, the whole mountain appears to be permeated by large and rich deposits of lead, nine lodges having been already opened upon, and capable of making such returns as to ensure early dividends.

OLD WESTMINSTER.—This mine has this week been visited and inspected by a deputation from the committee of management, whose report is even more favourable than was looked for. The winze commenced to be sunk from the 65 to the 92 has been so far unwavering by draining itself into the 92 that Capt. Evans and the underground captain (Jones) expressed their conviction that it would be drained by the end of this week, when they will resume sinking through ground worth from 3 to 4 tons of lead per fathom. The ground sinking through ground worth continues to improve for lead, and they are as sanguine as to the returns above; while the cross-cut driving north of the shaft is equally encouraging for good returns. At the surface all the machinery, &c., is in good order, and everything promises well.

WEST WHEEL KITTY.—The intelligence received from this mine is of an interesting and not unimportant character. It appears pretty certain that eventually the mine will be a great prize. Great importance is invariably attached to the opinions of old miners, whose lengthened experience of certain districts enables them to judge correctly as to the merits of any mines well known to them. It appears that some old men have recently given their opinions respecting West Wheel Kitty, and they are unanimous that it will prove a very profitable adventure.

WEST ST. IVES.—From the report of the agent this week it will be seen that the horse in the lode is declining, that good bunches of tin and copper are running through it, and it is looking so favourable for mineral that a good lode may be expected at the point. Bearing in mind the rich ores already met with in driving on this lode, and its proximity to the celebrated St. Ives Consols, Rosewall Hill and Ransom United, Wheel Margaret, Wheel Providence, and other rich mines in the St. Ives and Leland districts, there can be no doubt of West St. Ives proving a productive and profitable mine, especially as no pumping-machinery will be required for a long time to come, and as the ground is so favourable and inexpensive for driving.

TAMAR VALLEY.—The lode in the shaft is of the most encouraging character, and producing saving work for silver-lead. The agent reports his entire satisfaction at the appearance of the lode.

AT WHEAL GRENVILLE the rich course of tin in the 100 continues, and the counter copper lode in the new shaft, sinking below the 120, is improving. To show the change that has taken place in the position and prospects of this mine, it will be only necessary to remark that, at the meeting of the shareholders on Sept. 4 last, the debt against the mine for three months was upwards of 1800l. This debt was cleared off by a 7s. call, and the present monthly loss is under 1000l.; and, should the tin lode continue of its present value, and the counter open out well, the mine will soon be making good profits.

The general prospects of **EAST WHEAL GRENVILLE** are of the most encouraging character, and, to all appearances, the mine is on the eve of a good discovery, not only in the tin lode, but in the eastern part of the mine. There has been no ore to value had ever been met with in the latter part; now they have discovered a counter copper lode in the 95 east. A few days will decide this; and should it really prove to be a counter lode, the mine will quickly assume a prominent position. When these shares were selling at 7l. 10s., and Wheal Greenvilles at 11l. each, the prospects of either mine were not half so good as at the present moment.

GREAT RETALLACK will sell, on the 21st inst., 22½ tons of silver-lead ores. This sale will, it is expected, leave a profit, and render a call at the meeting, on the 23rd inst., unnecessary.

AUSTRALIAN MINES.

YUDANAMUTANA COPPER.—The superintendent (Aug. 28) states:—During the past month 21 tons 7 cwt. of rough copper have been sold here, realising 1460l. 18s. 6d. nett, and about 50 or 60 tons of metal are at port, or in transit from the mine. The North has again been visited by heavy rains, causing delay at the works, and arrival of copper at port. The Port Augusta Railway Bill is progressing favourably. Capt. Anthony (Aug. 17) reports:—Bilman Mine: During the past month 20 men have been employed underground, and have taken and sent to surface 72 tons of ore, of 16 per cent. Smelting operations have been impeded by wet weather, which, with the stopping of Nos. 1 and 3 furnaces for repairs, have reduced the operations for the month to a little over the work of two furnaces. The quantity of ore smelted is 240 tons, and copper made 25 tons. Several thousand tons of wood are let, and being delivered at the mine. The price of cartage to port is now reduced to 4l. per ton.

WORTHING.—Legg's engine-shaft is still being sunk under the 73; the nature of the ground is just as last reported, with small branches of ore running across the shaft; ground sunk during the month 8 ft. 7 in., total drift 21 ft. More ground would have been sunk, but they have had to put down a new lift, having had a breakage; however, they expected to commence driving at the 85 fm. level by the end of August. The 73 fm. level end, south of Legg's engine-shaft, still continues hard, but good for ore. The drive has been discontinued for the present, and the men put to strip down a piece of lode to the east, in hopes of finding easier ground. The 73 fm. level cross-cut west continues hard, and letting out water, which indicates a lode ahead, and small branches of ore crossing the level; ground driven during the month 6 ft. 4 in., total driven 11 ft. 3 in., and price for driving 16d. per fathom. The water appears to be coming away strong from the 65 end south of Legg's engine-shaft, and, judging from the appearance of the bottom of the 53 they expect to open up some good work. The stopes in the back of the 63 are now getting this north of No. 3 mine, but what is left holds as good as usual, and also the stopes throughout the mine. The company will commence making its own copper in about a month, when, if the prospects underground improve, remittances of cash, in addition to shipments of copper, will be made. Quantity of ore raised and dressed during the month, 200 tons; regulus made, 28 tons. Ore on hand, 160 tons, and 13 tons of regulus, in addition to 38 tons delivered, but not drawn for. Number of men employed, 127.

GREAT NORTHERN COPPER.—Capt. Tonkin (Aug. 10) reports:—Dorsetshire Mine: The end driving west of the long cross-cut is much the same as was last reported, although the country changed, the lode still appears regular. There is a chance to meet with something good.

ENGLISH AND AUSTRALIAN COPPER.—The quantity of coals at Kooronga was 593 tons; at Kapunda, 170 tons; and at Port Adelaide, 1663½ tons. At Kooronga there were three furnaces at work, and at the Port five furnaces. The refinery would be at work in a few days. Since last advices a shipment of 10 tons of copper had been made.

PORT PHILLIP AND COLONIAL GOLD.—Mr. Bland (Clunes, Aug. 26): The quantity of quartz crushed during the four weeks of July was 4657 tons, yielding 2051 ozs. 12 dwts. of gold, or an average of 13 dwts. 2 grs. per ton. The receipts for the same period were 11,289 l. 17s. 4d.; payments, 4493 l. 5s. 11d.; profit, 6796 l. 11s. 5d. Added to this sum was the balance from last account, 10,285 l. 2s. 6d., which made a total of 6421 l. 13s. 11d. The amount divided between the two companies was 3210 l. 16s. 11d. The Port Phillip Company's proportion of the amount was 1605 l. 8s. 6d., and the Clunes Company's was 1605 l. 8s. 6d., leaving a balance of 421 l. 13s. 11d., to be carried forward to next account. Four weeks' report for August:—Quantity of quartz crushed 4938 tons, yielding 1950 ozs. 8 dwts. of gold, or an average of 7 dwts. 21 grs. per ton. Mine: All the underground work is going on very well, the sinking of the north shaft progresses favourably, the ground continuing easy. The total depth from surface is now 690 ft., and below the No. 6 plat. The only method of ascertaining the value of the ore by sampling the mineral as it comes from the drives and winzes, and being continued, one 13-head battery being kept almost entirely on this mine. I do not think we need fear any deficiency in the supply of quartz. We are doing our best to open out the lower workings to a greater extent than the upper levels are being exhausted. Water Supply: The Birch's Creek plant, I am happy to say, continues to work most satisfactorily, and supplies us with an abundance of clear water. The board will by this time be relieved of all anxiety in respect to the repayment of the advance to the bank. The debt now amounts to 2000 l., the sum of 2840 l. having already been repaid out of the profits, and that amount is not interfering with the dividend account. The remittance required by this mail amounts to 4000 l.

PORT PHILLIP COPPER (W.A.).—Capt. Penberthy (July 31) reports:—All points of operation are proceeding satisfactorily. We have dressed this month 10 tons of copper ore, of from 16 to 18 per cent., and 85 tons of lead ore, of from 75 to 80 per cent.; also forwarded to port 90 tons. On hand, awaiting shipment, 246 tons of lead ore, and 47 tons of copper ore.

CADIANGLONG COPPER.—During August there were sampled from the mine 11½ tons of ore, averaging very nearly 14 per cent. for copper, and yielding by assay 11½ tons of fine copper. Smelting Works: There have been shipped to London, per the Ben Lomond and Rifleman, 13½ tons of fine copper. A further small quantity had been sold at Sydney. There were on the road, either 2½ tons at the works 10 tons completed, and 6 tons in a state of forwardness, with ore, metal, and slag estimated to produce 21½ tons. Ore on hand, 70½ tons; wood, 400 tons. Nothing satisfactory or more important in the way of discovery has been attained as respects the auriferous veinstone; a good deal of well-defined character had not been found.

HOLLOWAY'S OINTMENT AND PILLS—READY TO HAND.—Every kind and generous person feels a natural sympathy in the presence of suffering; and how much more grateful would that compassion be if it could supply the means of relief. Prof. Holloway offers to everyone the never-failing power of his ointment, the most essential service to afflicted humanity. His noble remedy reaches the seat of every malady, whether it be on the surface, or hidden in the darker recesses of the interior of the system, and thus extirpate it, if that be possible. Plainly-directed instructions for the guidance of invalids envelope every package of these restoratives, the reputation of which is not only European, but extends throughout the globe.

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IN THE MATTER OF THE COMPANIES ACT, 1862, and of the WALKHAM AND POLDIGE TIN, COPPER, AND SILVER-LEAD MINING COMPANY (LIMITED).

THE CREDITORS OF THE ABOVE-NAMED COMPANY are REQUIRED, on or before Saturday, the 16th day of November, 1867, to SEND THEIR NAMES AND ADDRESSES, and the PARTICULARS of their DEBTS or CLAIMS, and the NAMES AND ADDRESSES of their SOLICITORS (if any) to Messrs. KIMBER and ELLIS, of No. 199, Gresham House, Old Broad-street, in the City of London, the solicitors of Messrs. Charles Bedell and Henry Ritchie, the voluntary liquidators of the said company, and, if so required by notice in writing from the said voluntary liquidators, or their solicitors, are, either personally or by their solicitors, to COME IN and PROVE THEIR SAID DEBTS or CLAIMS at such time and place as shall be specified in such notice, and, in default thereof, they will be EXCLUDED from the BENEFIT of any DISTRIBUTION made before such debts are proved. KIMBER and ELLIS, Solicitors to the said Liquidators. Dated this 16th day of October, 1867.

UNITED MEXICAN MINING COMPANY (LIMITED).—Notice is hereby given that the ORDINARY HALF-YEARLY GENERAL MEETING of proprietors will be HELD at the office of this company, on WEDNESDAY, the 6th day of November next, at One o'clock precisely. The Transfer Books will be closed on the afternoon of the 26th instant, and re-opened on the day succeeding the meeting. By Order of the Board, W. M. BROWNE, Secretary. No. 3, Great Winchester-street-buildings, E.C., London, 18th October, 1867.

THE CHONTELES GOLD AND SILVER MINING COMPANY (LIMITED).—Notice is hereby given, that the SECOND ORDINARY GENERAL MEETING of the shareholders in the CHONTELES GOLD AND SILVER MINING COMPANY (LIMITED) will be HELD at the London Tavern, Bishopsgate-street Within, in the City of London, on TUESDAY, the 29th day of October, 1867, at Twelve o'clock. The Transfer Books of the company will be closed from the 17th to the 30th days of October, both inclusive. By Order, J. JAMESON TRURAN, Secretary. 185, Gresham-house, London, October 11th, 1867.

THE WICKLOW COPPER MINE COMPANY.—Incorporated by Act of Parliament. At the HALF-YEARLY MEETING of the proprietors of the above company, held at their offices, 113, Grafton-street, Dublin, on Saturday, October 12, 1867, EDWARD WRIGHT, Esq., LL.D., in the chair. The notice convening the meeting having been read by the Secretary, the common seal of the company was affixed to the Register of Shareholders. The following resolutions were then proposed and adopted:— Moved by the CHAIRMAN, seconded by JAMES HAUGHTON, Esq., and resolved:— That the directors' report and statement of accounts for the half-year ended 1st September, 1867, be received and adopted. Moved by the CHAIRMAN, seconded by CHAS. H. CHAYTOR, Esq., and resolved:— That a dividend of 15s. per share, free of income tax, be declared for the half-year ended 1st September, 1867, payable to the proprietors now registered in the books of the company on the 1st November proximo. Moved by the CHAIRMAN, seconded by GERVAS L. TAYLOR, Esq., and resolved:— That Thomas Hone, Esq., and Octavius O'Brien, Esq., be re-elected directors of the company. Moved by the CHAIRMAN, seconded by JOHN BARTON, Esq., and resolved:— That Thomas Worthington, Esq., the auditor retiring by rotation, be re-appointed. EDWARD WRIGHT, Chairman. WM. S. KILDHAL, Secretary. Moved by JAMES HAUGHTON, Esq., and unanimously resolved:— That a special vote of thanks be accorded to the Chairman and Directors for their great attention to and successful management of the affairs of the company. 12th October, 1867. WM. S. KILDHAL, Secretary.

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BAGILLT OIL COMPANY (LIMITED), FLINT. MANUFACTURERS OF BLACK GREASE FOR COLLIERY WIRE ROPES, TRAMS, WAGONS, &c., £5 PER TON TORCH and LAMP OIL, 1s. PER GALLON (Casks free). LUBRICATING OIL, 1s. PER GALLON (Casks free).

M. R. D. STICKLAND, M.E., having had upwards of 40 years' mining experience in Cornwall, several years of which he has had the entire management of mines therein, enables him to GIVE GOOD ADVICE thereon. Mining, Railway, and other Shares bought, sold, or exchanged. Shares for sale in mines and quarries that will pay 15 to 20 per cent. per annum. Offices, 5, Finsbury-street, London, E.C.

M. R. LEDWARD (of Chester), has FOR SALE a few SHARES in the TRELOGAN and GLEN ALUN LEAD MINES, at a small discount. An opportunity of acquiring shares in such valuable properties seldom occurs, except at very high premiums; the returns of ore (which have for some time covered the cost) are increasing every month; and the mines are recertain, ere long, to pay permanent dividends.

WANTED TO PURCHASE, SHARES in the following MINES:—RHODESMOR, BRYN GWIG, MINERA, WESTMINSTER.

MANCHESTER, AND WEST END OF LONDON. **M. R. W. HANNAM, MINING, SLATE QUARRYING, INSURANCE, AND GENERAL SHAREBROKER.** ROYAL INSURANCE BUILDINGS, KING STREET MANCHESTER; and 49, STRAND, LONDON, W. INSTANTANEOUS COMMUNICATION with the STOCK and MINING EXCHANGES, avoiding the delay and annoyance of visiting the City to ascertain prices. A Monthly Investment Circular on application.

NOTICE.—CAPT. S. M. RIDGE, of LLANIDLOES, MONTGOMERYSHIRE (late manager of the Brynastig and Cwm Fron Mines, and owners, in Shropshire and Wales), is NOW OPEN to INSPECT and faithfully REPORT UPON ANY LEAD MINE in either of these localities that may be confided to his care, having had better than 30 years' experience in lead mining, as miner and agent.—Address, Capt. S. M. Ridge, Llanidloes, Montgomeryshire.

FREE LABOUR REGISTRATION SOCIETY.

THE SELECT COMMITTEE of the above society (composed of working men) have drawn up a SET OF RULES for the Benefit Society, which have RECEIVED THE SANCTION AND APPROVAL of the HIGHEST AUTHORITIES in the Kingdom. They will be found to be more liberal than those of any existing Benefit Society or Trade Union. They leave perfect individual liberty of action to every member.

Among the many advantages offered may be named especially:—
1.—That one-third of all donations to the above society (already a considerable sum) is applied to strengthen the benefit fund.
2.—Thus enabling members to participate in all the privileges from the day of enrolment.

3.—No entrance fee.
4.—Cheapness of insurance, each of which is separate and optional.
For rules, registry sheets, and further particulars, apply at the offices, 9, Victoria-chambers, Victoria-street, Westminster.

F. C. MAUDE, Colonel, Hon. Sec.

THE FREMATOR GRANITE QUARRIES COMPANY (LIMITED).

Incorporated under the Companies Acts, 1862 and 1867.
Capital £30,000, in 6000 shares of £5 each, fully paid-up, without further liability. £2 per share payable on application, and £3 on allotment.
The directors and their friends are prepared to take up 2000 shares, and the allotment will take place so soon as 4000 shares have been subscribed for. If no allotment is made the deposit-money will be returned in full.

DIRECTORS.

Colonel TINLEY, 3, Cleveland-terrace-gardens, Kensington, W.
Major HARE, Woodlands, Harrow.
Major DOWN, Bartholomew-road, Kentish Town, N.W.
HENRY KNIGHT, Esq., 56, King William-street, E.C.
RICHARD MARGETSON, Esq., 3, Codrington-terrace, Kensington-park, W.

BANKERS.

Messrs. BARNETTS, HOARES, HANBURY, and LLOYD,
40, Lombard-street, London, E.C.
Messrs. GILLS, SONS AND CO., Tavistock.

AGENTS.

Messrs. FREDERICK GILL and Co.
TEMPORARY OFFICES.
ST. CLEMENT'S HOUSE, CLEMENT'S LANE, LONDON, E.C.

ABRIDGED PROSPECTUS.

This company is formed to work the Fremator Granite Quarries, in Cornwall, situate near Tavistock. Eminent engineers report that the granite is practically inexhaustible and of a superior quality. It has been supplied to many large Government works. The position of the quarry is unusually favourable, being connected by a railway 2½ miles long to Liphm Quay, where the granite can be shipped into vessels of 200 tons to all parts of the world; both railway and quay belong to the property.

The present working stock can produce 10,000 tons of granite annually, but with a small addition double that quantity can be produced. With a capital of only 20,000 the production would be 15,000 tons, and the profits, based on the results of past transactions, would amount to 15 per cent. per annum on the outlay. The directors are negotiating a contract for 120,000 tons of granite, which has been offered to them on favourable terms.

Detailed prospectuses, with plans, reports, &c., can be had on application to the agents, Messrs. FREDERICK GILL and Co., St. Clement's House, Clement's Lane, London, E.C., or to the secretary, at the offices of the company, where the Memorandum and Articles of Association may be inspected, and the fullest information obtained.

THE GREAT REPUBLIC GOLD AND SILVER MINING COMPANY.

Incorporated by Special Act of the Legislature of the State of Virginia, U.S.A., on the 25th day of January, 1867.

Capital £500,000.
Of which £150,000 have been fully paid up, and £350,000 (equal to £100,000), in shares, at the rate of ten shares for each bond, have been deposited at the bankers for conversion.

ISSUE OF £100,000 SEVEN PER CENT. FIRST MORTGAGE BONDS,
Price of issue, £90 per £100; deposit on application, 20 per cent., balance on allotment.

The bonds now offered at the above discount are sterling coupon bonds of £50 each, bearing interest at the rate of 7 per cent. per annum, payable semi-annually, on the 25th of January and 25th of July, at the bankers, in London. The bonds are convertible, at the option of the holder, into fully paid-up shares at par, which shares have been deposited at the bankers in the name of the trustees in London for conversion, provided application is made for that purpose within three years, to the trustees in London, or at the company's office, Norfolk, U.S.A.

CHAIRMAN.

Major CHARLES W. BUTTZ, Norfolk, Virginia.

TRUSTEES IN LONDON.

EDWARD A. HADLEY, Esq., 6, Stone-buildings, Lincoln's Inn.
CHARLES H. PRIOR, Esq., 24, George-street, Hanover-square.

TRUSTEES IN AMERICA.

NATHANIEL D. PIGGOTT, Esq., Norfolk, Virginia.

BANKERS.

Messrs. PRESCOTT, GROTE, CAVE, and Co., 62, Threadneedle-street, London.

TREASURER.

SMITH G. TUTTLE, Esq., Norfolk, Virginia.

SOLICITOR.

W. H. SMITH, Esq., 132, Gresham House, Old Broad-street.

SECRETARY.

Mr. HARVEY B. LANCRAFT, Norfolk, Virginia.

OFFICES OF THE COMPANY.

No. 133, GRESHAM HOUSE, OLD BROAD STREET, LONDON.

MINING PAMPHLET FOR 1868.—On the 1st of November next will be published, price One Shilling, Mr. T. E. W. THOMAS'S MINING PAMPHLET, containing full particulars and descriptions of the chief mining investments of the day, with selections and recommendations for the forthcoming year. This pamphlet will be composed and arranged on a special principle to that of 1864. Orders received by J. H. SCHROEDER, printer, 11, St. Mary Axe, London, E.C.

In the Press, Fourth Edition, Revised and Enlarged, price 1s.

BRITAIN'S METAL MINES:
A complete guide to their Laws, Usages, Localities, and Statistics.
By JOHN ROBERT PIKE,
Author of "Facts and Figures," and other works on the mines of Cornwall and Devon.
12, St. Michael's-alley, Cornhill, E.C.

Second Edition, price 3s. 6d.

MEMOIR OF THE LATE MR. PARKIN JEFFCOCK,
Civil and Mining Engineer, by his Brother, the Rev. J. T. JEFFCOCK, M.A., Wolstanton Vicarage, Stoke-on-Trent, with Portrait and Illustrations. Crown 8vo., neat cloth.
London: BEMROSE and SONS, 21, Paternoster-row and Derby.

Price 1s. 6d., by post 1s. 8d.

NOTES ON THE MINES OF THE RIO TINTO DISTRICT:
Containing a DETAILED REPORT upon the MINES and the MEANS of RENDERING THEM MORE PROFITABLE, as well as an ACCOUNT of the PROCESS of TREATING POOR ORES of COPPER, successfully used there.
By JOSEPH LEE THOMAS, Assoc. I.C.E.
London: MINING JOURNAL Office, 28, Fleet-street, E.C.

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By MA. MICHAEL HENRY,
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DIRECT FROM CHARENTE.
A CERTAIN CURE for CHOLERA, spasmodic symptoms, and internal complaints, when administered; but how seldom to be met with in its pure state, unless from the direct importers, C. DEVEREUX and Co., 26, EAST INDIA CHAMBERS, LEADENHALL STREET, LONDON, at 2s. 6d., and for "premiere qualite," 4s. per dozen, either pale or brown, bottles and case included.
Forwarded same day against Post-office order or remittance.

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

PURSUANT to an Order made in a Cause of Harvey and Others v. Lean, the creditors in respect of EAST GREAT WORK MINE, in the parish of Breage, within the said Stannaries, are, on Tuesday, the 29th day of October instant, at Eleven o'clock in the forenoon, to COME IN AND PROVE THEIR DEBTS before the Registrar of the said Court, at his office, in Truro, or in default thereof they will be excluded the benefit of the said Decree.
Dated Registrar's Office, Truro, 17th October, 1867.

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

IN THE MATTER OF THE COMPANIES ACT, 1862, and of the EAST BASSETT AND GRYLLS MINING COMPANY.—The Registrar of this Court has appointed FRIDAY, the 25th day of October instant, at Eleven o'clock in the forenoon, at the Registrar's Office, at Truro, to SETTLE the LIST of CONTRIBUTORIES of the ABOVE-NAMED COMPANY now made out and deposited at the said office.

WILLIAM MICHELL, Registrar of the said Court.
Dated the 17th day of October, 1867.

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

IN THE MATTER OF THE COMPANIES ACT, 1862, and of the BOSWORTHEN AND PENZANCE CONSOLS UNITED MINING COMPANY (LIMITED).—By an Order made by His Honor the Vice-Warden of the Stannaries in the above matter, dated the 15th day of October instant, on the petition of James Bevan Coulson and William Coulson, of Penzance, within the said Stannaries, creditors of the said company, it was ORDERED that the said BOSWORTHEN AND PENZANCE CONSOLS UNITED MINING COMPANY (LIMITED) should be WOUND-UP by this Court under the provisions of the Companies Act, 1862.

HODGE, HOCKIN, AND MARRACK, Truro.
(Agents for E. S. Boyns, Solicitor, Penzance).
Dated Truro, October 16th, 1867.

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

IN THE MATTER OF THE COMPANIES ACT, 1862, and of the CLOWANCE WOOD MINING COMPANY (LIMITED).—Notice is hereby given, that ALL CREDITORS of the ABOVE-NAMED COMPANY are REQUIRED to appear on or before MONDAY, the 28th day of October instant, to SEND IN THEIR NAMES AND ADDRESSES and the AMOUNTS and PARTICULARS of their SEVERAL CLAIMS to WILLIAM MICHELL, Esq., the Registrar of the said Court, at Truro.—Dated Truro, October 17th, 1867.

THE ST. CUTHBERT LEAD SMELTING COMPANY (LIMITED),

IN LIQUIDATION.

MR. PHILIP D. TUCKETT is instructed to SELL, BY AUCTION, at the Mart, Tokenhouse-yard, London, on Tuesday, October 22d, at Twelve o'clock, in One Lot, almost without reserve, the very valuable FREEHOLD and LEASEHOLD PROPERTY, known as the

ST. CUTHBERT LEAD SMELTING WORKS,
or the FRIDDY MINERY, three miles from the City of Wells, comprising THIRTY-SEVEN ACRES of LAND, of which about 20 acres are covered by a rich and valuable surface accumulation of lead-producing debris, estimated to contain 35,000 tons of metallic lead; together with the smelting-furnaces, engine-houses, machinery, manager's house, workmen's cottages, &c., recently erected at great expense, capable of turning out from 40 to 100 tons of lead per month, at a cost of from £10 to £12 per ton, with little or no additional outlay. Particulars, with plans and conditions of sale, may be obtained at the Swan Hotel, Wells; or of Mr. PHILIP D. TUCKETT, land agent, surveyor, &c., 4, Old Broad-street, E.C., and 3, St. Martin's-place, Trafalgar-square, London, W.C.

MR. JOHN BURGESS has been favoured with instructions from Messrs. Michell and Cooke to offer FOR SALE, BY PUBLIC AUCTION, on Tuesday, the 29th day of October, 1867, at Eleven o'clock in the forenoon, at LITTLEBESIDE, near SCORRIER, the whole of their STOCK-IN-TRADE, consisting of the following NEW and SECOND-HAND

MINING MATERIALS, viz.:—

(under dissolution of partnership) a large assortment of PUMPS, of various sizes, from 4 to 20 inch bore.

Working barrels, from 4 to 20 in. bore; windbores, from 4 to 20 in. bore; H and doorkpieces of all sizes; plunger poles of all sizes; stuffing boxes and glands of all sizes; hammered and rolled rod plates and caps of all sizes; capstan and whim sheaves of all sizes; 12, 14, 16, and 18 in. wood rods; brass belt; machine, horse whelm, winze, and other tools.
Machine and horse whelm chains, pin chains, bevil chains, rod and flange bolts, staples and glands, tram wheels, tram wagons and skips, faggotted yokes, gudgeons and shafts, faggotted loops and setts-off, taps, plates, lifting jacks, vices, anvils, smiths' and miners' tools, screw tools, hand screws and drop screws, single double, and treble blocks, iron and steel point shovels, pick hilt, gudgeons, bearing and top blocks and saddles, centre pieces for wheels, spur wheels and cranks, seats, clacks and valves, air pipes, single and double power crab winches, cisterns, angle and balance bobs of various sizes, cast-iron, horizontal iron rods, bucket rods, beams, scales and weights, several sets of iron work for angle and balance bobs, air machines, wire rope, iron horses, pumps rings, &c., cast iron stamps axle, with connections for 12 beads, water wheel 48 feet diameter, by 4 ft. wide, and cast-iron axle, with driving gear for stamps or drawing machinery, cast and wrought scrap iron, rod straps, brackets and pivot blocks, spanners, kibble moulds, smiths' bellows of various sizes, screw stocks, and a quantity of other materials required for mining purposes; also, 3 large wagons, 4 good labour horses and harness, 3 large cranes, and weighbridge.
Full particulars in Catalogues.
For further particulars apply to F. H. COCK, Esq., solicitor, Truro.

FOREST OF DEAN, GLOUCESTERSHIRE.

VALUABLE COAL AND IRON MINES.

MESSRS. BENTLEY AND HILL WILL SELL, BY AUCTION, at the Spread Eagle Hotel, in the City of Gloucester, on Tuesday, the 5th day of November, 1867, at Five o'clock P.M., in Three Lots, subject to conditions of sale to be then produced,—

LOT 1.—THREE EQUAL PARTS, or SHARES, the whole into four equal parts or shares being considered as divided, in all that GALE of COAL, called the "HIGH DUFF ENGINE COLLIERY," bounded as in the award of the Dean Forest Mining Commissioners, and of the estimated extent of 315 acres. This colliery is unopened, and consists of tracts of coal in the Coleford, High Duff, Whittington, Yorkley, and Trenchard veins of coal. The royalty payable to the Crown in respect of the coal to be got from this mine is only 3d. per ton, and nearly £2000 have already been paid in respect of dead rents, which will have to be allowed to the holder of the gale under rule 14, set out in the second schedule to the said award out of the outworkings of any future years.

LOT 2.—All that GALE of COAL, called the "ROYAL COLLIERY," bounded as in the said award of the Dean Forest Mining Commissioners is mentioned, and of the estimated extent of 353 acres. This colliery is also unopened, and contains tracts of coal in the Coleford, High Duff, Whittington, Yorkley, and Trenchard veins of coal. The royalty to be paid by this mine is also 3d. per ton, and nearly £2000 have been paid for dead rents in respect of this property, which will have to be allowed to the holder, as mentioned above with reference to Lot 1. The quantity of coal in each of these gales has been estimated by competent authorities to be nearly 4,000,000 tons.

LOT 3.—All that GALE, called the "TUFFTHORN IRON MINE," situate nearly adjoining the town of Coleford, and estimated to contain 85 acres. About £40 have been paid for dead rents in respect of this property. The present proprietors have expended a considerable sum of money in sinking two shafts and proving the mine, and the purchaser will be entitled to all the tackle and other appliances now in use on the ground. Mr. Foster Brown, the deputy gavelier, estimates this mine to contain 200,000 tons of ore.

The whole of the foregoing properties are admirably situated for the delivery of their produce, being contiguous to the Severn and Wye Railway, and the Worcester, Dean Forest, and Monmouth Railway.

For further particulars, apply to Mr. S. M. BEALE, Solicitor, Worcester-chambers, Worcester; or to the Auctioneers, Sansome-place, Worcester.

DYFNOWM LEAD MINES.

Situate in the parish of PENEGOES, in the county of MONTGOMERY, together with the MACHINERY, PLANT, and ERECTIONS thereon, including AGENT'S LICES, and also a nearly new 10 horse power TRACTION STEAM ENGINE, by Aveling and Porter.

MR. V. BUCKLAND WILL SELL, BY AUCTION, at the Mart, Tokenhouse Yard, Lothbury, on Tuesday, November 19th, 1867, at One o'clock, by order of the Official Liquidator, the above VALUABLE PROPERTY, which is held on lease for an unexpired term of twenty-eight years from September, 1867, at low royalties.

The mines may be inspected at any time previous to the sale, by appointment with JOSEPH ROBERTS, the manager at the mines.
Particulars and conditions of sale may be obtained of the Manager, or the premises; at the Auction Mart; of Messrs. COBB and SOUTHEY, Solicitors, No. 4, Westminster-chambers, S.W.; or of the Auctioneer, No. 72, Queen-street, City, London.

TO BE SOLD, a SLATE QUARRY, proved to be of good quality, with about FIFTEEN ACRES of FREEHOLD LAND, in the neighbourhood of CORRIS.
For further particulars, apply to "A. B.," Post-office, Machynlleth, North Wales.

TO SLATE QUARRY INVESTORS.

TO BE DISPOSED OF, a THIRD INTEREST in a VALUABLE SLATE QUARRY, recently opened by the advertiser and two friends. The vein has been thoroughly tested by a level, proving the existence of a green vein, probably the purest and widest in the principality. The blue slate is now worked, and is of superior quality and cleavage.
The advertiser is leaving Wales, and would dispose of his interest for a reasonable premium on costs out of the pocket.
The quarry has immense natural advantages for economical working, is close to a line of railway, has a low royalty, and a long lease.
For further particulars, apply, Box No. 54, Post-office, Carnarvon.

IN the course of the month of FEBRUARY, 1868, on a day to be fixed hereafter, will be PUBLICLY SOLD, to the highest bidder, by the COMPANY FOR THE PROMOTION OF OPENING MINES IN NETHERLANDS INDIA, in liquidation, and after future approval by Government, THE CONCESSION FOR THE WORKING OF THE COAL MINES AT BANJOE-IRANG (KALANGAN), situate in the residency south, and eastern division of BORNEO, together with the WORKS at the MINES, and eastern company, in such condition as they may be found on being taken over.
Information can be obtained at Amsterdam, from Messrs. HEERKEN and Co., whilst the original documents are kept for investigation at the office of Messrs. TIEDEMAN and VAN KERCHER at this place.
J. J. BLANCKENHAGEN,
G. A. DE LANGE,
D. JANNETTE WALEN,
Batavia, 12th April, 1867.

ALSTON, CUMBERLAND.
FOR SALE, BY PRIVATE BARGAIN, the WHOLE INTEREST of the present shareholders in
BIRCHY BANK MINE.

The take extends in length 600 fathoms, adjoining the Rodderupell Mining Company's ground on the west, and in breadth 20 fathoms north of the north vein, and 20 fathoms south of the south vein.
Application to be made to Mr. JOHN PRAET, Mining Agent, Alston; or J. H. INGLEDEW, Esq., Solicitor, Dean-street, Newcastle-on-Tyne.

TO BE SOLD, a SLATE AND SLAB QUARRY, just opened in DENBIGHSHIRE, NORTH WALES, within five miles of a railway station, and at a distance of twenty miles from any other quarry. The slates are of a greyish blue colour, and of excellent quality. The vein is about 150 yards on the side of a hill, and the cost of working will be moderate, as no engine will be required for pumping and hoisting. Royalty has to be paid to the landlord.
For further particulars, apply to Mr. J. SAUNDERS, Llanfair, Abergele, North Wales.

TO BE SOLD, CHEAP, a PORTABLE ENGINE of 14-horse power, double cylinder, of first-class construction, workmanship, and material. Winding gear to order. SECOND-HAND PORTABLES FOR SALE.
—Apply to Messrs. BARROWS and CARMICHAEL, engineers, Banbury, Oxon.

ON SALE, a LARGE STOCK of NEW and SECOND-HAND STEAM-ENGINES, BOILERS, STEAM HAMMERS, ENGINEERS' TOOLS, and MACHINERY of every description.

For particulars, see WHEATLEY KIRK'S "Monthly Circular," by post, free. NEW STEAM-ENGINES, BOILERS, COLLIERY and CONTRACTORS PLANT made at a short notice.
BEST MATERIALS and WORKMANSHIP GUARANTEED.
8, ESSEX STREET, and STORES, 21, OLD GARRATT, MANCHESTER.

COUNTY OF WICKLOW.

TO BE LET, on such terms as may be agreed upon, the GLENMALUR LEAD MINE, in the townland of BALLINAFUNCHOG, barony of BALLINACOR NORTH, and county of WICKLOW.

The mine is situate on the east side of the valley of Glenmalur, about eight miles from the town of Rathfriland, in a mineralised district of great promise. It has been worked for a considerable time up to a recent period, and was very productive. A large water-wheel, connected with a pumping apparatus, is at present employed keeping the workings clear of water. A railway is laid through, and in the adit level. A constant supply of water power is available from the Avonbeg River adjoining, and other sources. Timber for use of the mine can be obtained on advantageous terms on the grounds. Houses suitable for the superintendents and workmen, offices, and workshops, are on the premises, and land can be given for any further accommodation that may be necessary.
Parties desirous of proposing for the mine can obtain particulars as to its extent, state, and conditions on which it will be let, on application to JOHN HILL, Esq., Civil Engineer, Ennis.

Proposals will be received by Messrs. G. and R. K. JOHNSTON, Dundalk.

COGENHOE, FIVE MILES FROM NORTHAMPTON.

TO BE LET, ON LEASE, INEXHAUSTIBLE BEDS OF TERRA-COTTA CLAY AND WHITE SAND, making best facing bricks of any colour, tiles, sanitary pipes, and pottery.
Railway and water carriage on the property to all parts.
Address, "Manager," Cogenhoe Mines, near Northampton.

GRANITE QUARRY.

STEWARTRY OF KIRKCUDBRIGHT, SCOTLAND.

TO BE LET, the RIGHT to QUARRY the GRANITE known as the WEDGE ROCK, which is intersected by the Portpatrick Railway, between Gatehouse and New Galloway Stations.
The colour and quality of this granite have been pronounced by good judges to be excellent, and nothing can exceed the facilities for carriage by railway either to distant parts of the country or to the harbour of Kirkcudbright.
The rock has been laid bare, and blasted sufficiently to enable a satisfactory opinion of the granite to be formed.
For further information apply to H. J. MOULE, Esq., Gatehouse, Kirkcudbright.

ROCHSOLES GAS COAL.

ROCHSOLES GAS COAL,
Yielding 12,000 cubic feet of gas per ton.
Price, in trucks, Aldridge Station, 25s. per ton; and 27s. 6d. f.o.b. Glasgow, or East Coast of Scotland. For analysis, &c., apply to—
JAMES STRUTHERS,
ROCHSOLES COLLIERY, AIRDRIE.

UTILISATION OF COAL DUST AND MANUFACTURE OF ARTIFICIAL FUEL.

BARKER'S PATENTS.

THE LONDON PATENT COAL COMPANY (LIMITED) having purchased the sole rights to these patents throughout the United Kingdom, are now granting licences to coal owners and others for the use of the invention.

The process is simple and inexpensive; the cost of manufacture, including the amalgamating material, being only 2s. per ton.
The fuel is without smell, and is available for all the uses of ordinary coal. It occupies 33 cubic feet of space per ton only, as against 42, the Admiralty measurement for coal. In the various tests it has undergone it has in every instance beaten similar round coal in evaporative power, weight for weight.
For particulars of these trials, and every information respecting the patents, apply to the Managing Director, or the Secretary, 26, Martin's-lane, Cannon-street, London, E.C.

COAL CUTTING MACHINERY.—The WEST ARDSLEY COMPANY having, by recently patented improvements, perfected their coal cutting machinery, worked by compressed air, are NOW READY to MAKE CONTRACTS for the CONSTRUCTION and USE of their MACHINES.

The results of twelve months' experience in the working of these machines, by the West Ardsley Company, have proved most satisfactory, their use being found to CHEAPEN the COST and IMPROVE the average SIZE of the COAL, to LIGHTEN the LABOUR, and also to MODIFY the SANITARY CONDITION of the MINE.
All communications to be made to Messrs. FIRTH, DONNISTHORPE, and BOWER, No. 8, Britannia-street, Leeds.

NOTICE.—The WEST ARDSLEY COMPANY, having reason to believe that their patents are being infringed upon, hereby give notice that they will TAKE LEGAL PROCEEDINGS AGAINST ALL PARTIES who may MAKE FOR SALE, or USE ANY MACHINERY in the construction of which any such INFRINGEMENT is MADE.

ANALYSES OF COAL, CANNEL, MINERAL OILS, and all OIL PRODUCING MINERALS are UNDERTAKEN by
A. NORMAN TATE, F.A.S.L., &c.,
ANALYTICAL and CONSULTING CHEMIST, and CHEMICAL ENGINEER
(Author of "Petroleum and its Products," &c.),
MOLD, NORTH WALES.

Plans and estimates for oil and chemical works prepared, and their Assays of metals and their ores carefully conducted.

NITRO-GLYCERINE, OR NOBEL'S PATENT BLASTING OIL.—The EXPLOSIVE FORCE of this BLASTING OIL is TEN TIMES that of GUNPOWDER, and the ECONOMY and SAVING in TIME, LABOUR, and COST in removing granite and hard rock, in sinking shafts, driving tunnels, and opening forward in close ends is immense.

It will not explode from a spark or fire, but from concussion alone, and is consequently much less dangerous than gunpowder or gun-cotton.
Being heavier than water it sinks to the bottom of a wet hole, no other tamping than water being required.

One charge of this blasting oil, which is now being used with wonderful effect in all the largest slate quarries in North Wales, will displace as much slate rock as four or five charges of gunpowder; and its great force, acting on a large quantity of good slate rock, shakes and displaces it at the natural joints or cracks, without damaging the slabs nearly so much as the more numerous blasts from any other blasting material would do.
This invaluable quarrying agent may now be obtained from Messrs. WARR and Co., Carnarvon, sole consignees from the patentee.

BASTIER'S CHAIN PUMP.—This patent pump is the MOST EFFICIENT in existence for LIFTING ANY QUANTITY of WATER from ANY DEPTH. One lifting from a depth of 170 ft. may be done at work daily, on application to the

SOLE LICENSEES,
MESSRS. J. JACKSON and CO., ENGINEERS, 17, GRACECHURCH STREET, LONDON, E.C.

Who SUPPLY PUMPS and LICENSEES.
Communications to Mr. Bastier, the patentee, to be sent to the same address AGENT FOR THE COUNTIES OF NORTHUMBERLAND and DURHAM, YORKSHIRE, DERBYSHIRE, and NORTH STAFFORDSHIRE,
Mr. THOMAS GREENER, MINING OFFICE, NORTHGATE, DARLINGTON.
AGENTS FOR SCOTLAND,
MESSRS. P. and W. MACLELLAN, 127 and 129, PRONGATE, GLASGOW

Fig. 1.

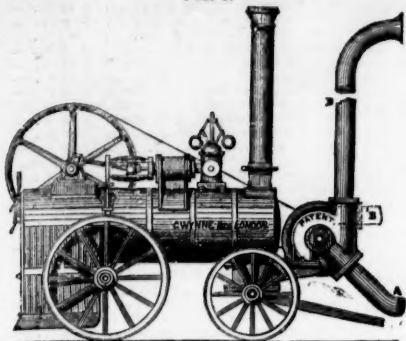


FIG. 1.—PATENT PORTABLE PUMPING ENGINE, WITH PUMP FIXED TO ENGINE; made in all sizes.

Fig. 2.

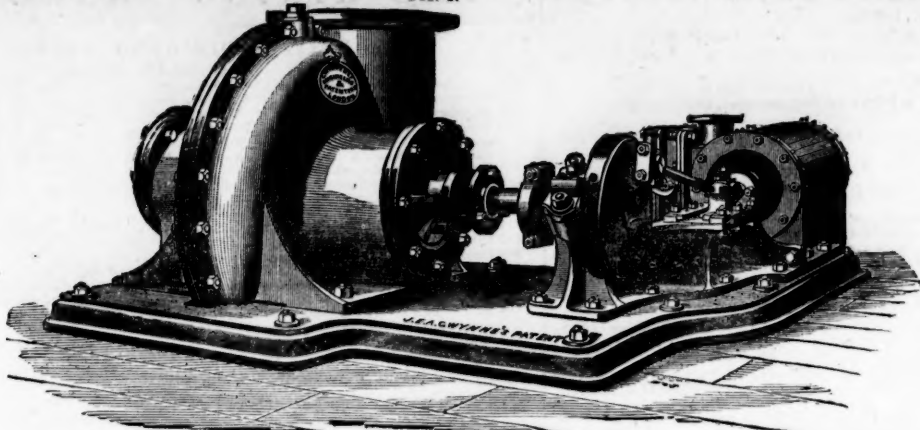


FIG. 2.—PATENT PUMPING ENGINE, FOR USE ON BOARD SHIP, COAL PITTS, MINES, QUARRIES, DOCKS, CANALS, HARBOURS, &c.; FOR SURFACE CONDENSERS, PROPELLING, &c.

GWYNNE AND CO.'S PATENT DOUBLE-ACTION CENTRIFUGAL PUMPING MACHINERY, FOR IRRIGATION, DRAINAGE, MANUFACTURING, AND OTHER USES.

GWYNNE AND CO. have erected the largest pumping machinery in the world; they have also erected more of all powers than any other firm in existence, and are prepared to contract that their machinery will do more work with less cost of coal than any other makers.

This Machinery has received the highest commendation; and thousands of Engineers, Manufacturers, and others using it, can be referred to in all parts of the world.

GWYNNE AND CO. HAVE RECEIVED THE FOLLOWING PRIZE MEDALS:—



FOR MANUFACTURING PURPOSES

They are largely in use; among others, by Paper Makers, Brewers, Distillers, Dyers, Chemists, Tanners, Sugar Refiners, Bleachers, Calico Printers, Carpet Manufacturers, Engineers and Iron Founders, Woollen Cloth and Blanket Manufacturers, Oil Refineries, Soap, Alkali, Salt, Starch, and Candle Works, Water Works, Lime and Cement Works, Quarries, Coal and Iron Mines, Sheep Washing, Public Baths, Cotton, Flax, Match, Felt, Oil and other Mills, &c. Numerous references to all the foregoing can be had on application.

FOR DRAINAGE WORKS

GWYNNE and Co.'s Patent Centrifugal Pumps are in very extensive use, and some of the largest tracts of land in this country, and in Holland, Italy, Austria, France, Belgium, Denmark, Demerara, &c., are kept dry by their use.

FOR IRRIGATION WORKS

They have been selected for very extensive works in Egypt, Turkey, Spain, France, Belgium, India, Ceylon, Java, China, Australia, Porto Rico, &c., &c.

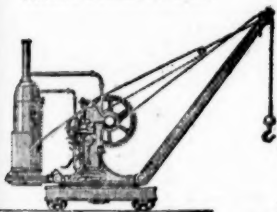
FOR EMPTYING DRY OR GRAVING DOCKS

They are quite unequalled, and will be found to excel all other arrangements, discharging a body of water in proportion to the lift, the speed of engines and power remaining the same; they will empty a dock in a shorter time and with much less power than is requisite with any other system. The first cost of machinery, the erection, and the foundations and brickwork necessary, are much less expensive than with any other arrangement, and the cost of keeping in thorough working order is merely nominal.

ESTIMATES FOR ANY SITUATION FORWARDED UPON APPLICATION. LIST OF PRICES FREE, ON RECEIPT OF TWO STAMPS.

**GWYNNE AND CO., HYDRAULIC AND MECHANICAL ENGINEERS,
ESSEX STREET WORKS, STRAND, LONDON, W.C.**

PATENT STEAM CRANE.



PARIS EXHIBITION, CLASS 52.

MEDAILLE D'HONNEUR.

APPLEBY BROTHERS,

EMERSON STREET, SOUTHWARK,
LONDON, S.E.,

Engineers and Patentees of STEAM CRANES, DONKEY PUMPS, &c.

PATENT DONKEY PUMPS.

Ram.....	1½ in.....	2 in.....	2½ in.....	3 in.....	3½ in.....	4 in.....	4½ in.....	5 in.....	5½ in.....	6 in.....	6½ in.....	7 in.....	7½ in.....	8 in.....	8½ in.....	9 in.....	9½ in.....	10 in.....	10½ in.....	11 in.....	11½ in.....	12 in.....	12½ in.....	13 in.....	13½ in.....	14 in.....	14½ in.....	15 in.....	15½ in.....	16 in.....	16½ in.....	17 in.....	17½ in.....	18 in.....	18½ in.....	19 in.....	19½ in.....	20 in.....	20½ in.....	21 in.....	21½ in.....	22 in.....	22½ in.....	23 in.....	23½ in.....	24 in.....	24½ in.....	25 in.....	25½ in.....	26 in.....	26½ in.....	27 in.....	27½ in.....	28 in.....	28½ in.....	29 in.....	29½ in.....	30 in.....	30½ in.....	31 in.....	31½ in.....	32 in.....	32½ in.....	33 in.....	33½ in.....	34 in.....	34½ in.....	35 in.....	35½ in.....	36 in.....	36½ in.....	37 in.....	37½ in.....	38 in.....	38½ in.....	39 in.....	39½ in.....	40 in.....	40½ in.....	41 in.....	41½ in.....	42 in.....	42½ in.....	43 in.....	43½ in.....	44 in.....	44½ in.....	45 in.....	45½ in.....	46 in.....	46½ in.....	47 in.....	47½ in.....	48 in.....	48½ in.....	49 in.....	49½ in.....	50 in.....	50½ in.....	51 in.....	51½ in.....	52 in.....	52½ in.....	53 in.....	53½ in.....	54 in.....	54½ in.....	55 in.....	55½ in.....	56 in.....	56½ in.....	57 in.....	57½ in.....	58 in.....	58½ in.....	59 in.....	59½ in.....	60 in.....	60½ in.....	61 in.....	61½ in.....	62 in.....	62½ in.....	63 in.....	63½ in.....	64 in.....	64½ in.....	65 in.....	65½ in.....	66 in.....	66½ in.....	67 in.....	67½ in.....	68 in.....	68½ in.....	69 in.....	69½ in.....	70 in.....	70½ in.....	71 in.....	71½ in.....	72 in.....	72½ in.....	73 in.....	73½ in.....	74 in.....	74½ in.....	75 in.....	75½ in.....	76 in.....	76½ in.....	77 in.....	77½ in.....	78 in.....	78½ in.....	79 in.....	79½ in.....	80 in.....	80½ in.....	81 in.....	81½ in.....	82 in.....	82½ in.....	83 in.....	83½ in.....	84 in.....	84½ in.....	85 in.....	85½ in.....	86 in.....	86½ in.....	87 in.....	87½ in.....	88 in.....	88½ in.....	89 in.....	89½ in.....	90 in.....	90½ in.....	91 in.....	91½ in.....	92 in.....	92½ in.....	93 in.....	93½ in.....	94 in.....	94½ in.....	95 in.....	95½ in.....	96 in.....	96½ in.....	97 in.....	97½ in.....	98 in.....	98½ in.....	99 in.....	99½ in.....	100 in.....	100½ in.....	101 in.....	101½ in.....	102 in.....	102½ in.....	103 in.....	103½ in.....	104 in.....	104½ in.....	105 in.....	105½ in.....	106 in.....	106½ in.....	107 in.....	107½ in.....	108 in.....	108½ in.....	109 in.....	109½ in.....	110 in.....	110½ in.....	111 in.....	111½ in.....	112 in.....	112½ in.....	113 in.....	113½ in.....	114 in.....	114½ in.....	115 in.....	115½ in.....	116 in.....	116½ in.....	117 in.....	117½ in.....	118 in.....	118½ in.....	119 in.....	119½ in.....	120 in.....	120½ in.....	121 in.....	121½ in.....	122 in.....	122½ in.....	123 in.....	123½ in.....	124 in.....	124½ in.....	125 in.....	125½ in.....	126 in.....	126½ in.....	127 in.....	127½ in.....	128 in.....	128½ in.....	129 in.....	129½ in.....	130 in.....	130½ in.....	131 in.....	131½ in.....	132 in.....	132½ in.....	133 in.....	133½ in.....	134 in.....	134½ in.....	135 in.....	135½ in.....	136 in.....	136½ in.....	137 in.....	137½ in.....	138 in.....	138½ in.....	139 in.....	139½ in.....	140 in.....	140½ in.....	141 in.....	141½ in.....	142 in.....	142½ in.....	143 in.....	143½ in.....	144 in.....	144½ in.....	145 in.....	145½ in.....	146 in.....	146½ in.....	147 in.....	147½ in.....	148 in.....	148½ in.....	149 in.....	149½ in.....	150 in.....	150½ in.....	151 in.....	151½ in.....	152 in.....	152½ in.....	153 in.....	153½ in.....	154 in.....	154½ in.....	155 in.....	155½ in.....	156 in.....	156½ in.....	157 in.....	157½ in.....	158 in.....	158½ in.....	159 in.....	159½ in.....	160 in.....	160½ in.....	161 in.....	161½ in.....	162 in.....	162½ in.....	163 in.....	163½ in.....	164 in.....	164½ in.....	165 in.....	165½ in.....	166 in.....	166½ in.....	167 in.....	167½ in.....	168 in.....	168½ in.....	169 in.....	169½ in.....	170 in.....	170½ in.....	171 in.....	171½ in.....	172 in.....	172½ in.....	173 in.....	173½ in.....	174 in.....	174½ in.....	175 in.....	175½ in.....	176 in.....	176½ in.....	177 in.....	177½ in.....	178 in.....	178½ in.....	179 in.....	179½ in.....	180 in.....	180½ in.....	181 in.....	181½ in.....	182 in.....	182½ in.....	183 in.....	183½ in.....	184 in.....	184½ in.....	185 in.....	185½ in.....	186 in.....	186½ in.....	187 in.....	187½ in.....	188 in.....	188½ in.....	189 in.....	189½ in.....	190 in.....	190½ in.....	191 in.....	191½ in.....	192 in.....	192½ in.....	193 in.....	193½ in.....	194 in.....	194½ in.....	195 in.....	195½ in.....	196 in.....	196½ in.....	197 in.....	197½ in.....	198 in.....	198½ in.....	199 in.....	199½ in.....	200 in.....	200½ in.....	201 in.....	201½ in.....	202 in.....	202½ in.....	203 in.....	203½ in.....	204 in.....	204½ in.....	205 in.....	205½ in.....	206 in.....	206½ in.....	207 in.....	207½ in.....	208 in.....	208½ in.....	209 in.....	209½ in.....	210 in.....	210½ in.....	211 in.....	211½ in.....	212 in.....	212½ in.....	213 in.....	213½ in.....	214 in.....	214½ in.....	215 in.....	215½ in.....	216 in.....	216½ in.....	217 in.....	217½ in.....	218 in.....	218½ in.....	219 in.....	219½ in.....	220 in.....	220½ in.....	221 in.....	221½ in.....	222 in.....	222½ in.....	223 in.....	223½ in.....	224 in.....	224½ in.....	225 in.....	225½ in.....	226 in.....	226½ in.....	227 in.....	227½ in.....	228 in.....	228½ in.....	229 in.....	229½ in.....	230 in.....	230½ in.....	231 in.....	231½ in.....	232 in.....	232½ in.....	233 in.....	233½ in.....	234 in.....	234½ in.....	235 in.....	235½ in.....	236 in.....	236½ in.....	237 in.....	237½ in.....	238 in.....	238½ in.....	239 in.....	239½ in.....	240 in.....	240½ in.....	241 in.....	241½ in.....	242 in.....	242½ in.....	243 in.....	243½ in.....	244 in.....	244½ in.....	245 in.....	245½ in.....	246 in.....	246½ in.....	247 in.....	247½ in.....	248 in.....	248½ in.....	249 in.....	249½ in.....	250 in.....	250½ in.....	251 in.....	251½ in.....	252 in.....	252½ in.....	253 in.....	253½ in.....	254 in.....	254½ in.....	255 in.....	255½ in.....	256 in.....	256½ in.....	257 in.....	257½ in.....	258 in.....	258½ in.....	259 in.....	259½ in.....	260 in.....	260½ in.....	261 in.....	261½ in.....	262 in.....	262½ in.....	263 in.....	263½ in.....	264 in.....	264½ in.....	265 in.....	265½ in.....	266 in.....	266½ in.....	267 in.....	267½ in.....	268 in.....	268½ in.....	269 in.....	269½ in.....	270 in.....	270½ in.....	271 in.....	271½ in.....	272 in.....	272½ in.....	273 in.....	273½ in.....	274 in.....	274½ in.....	275 in.....	275½ in.....	276 in.....	276½ in.....	277 in.....	277½ in.....	278 in.....	278½ in.....	279 in.....	279½ in.....	280 in.....	280½ in.....	281 in.....	281½ in.....	282 in.....	282½ in.....	283 in.....	283½ in.....	284 in.....	284½ in.....	285 in.....	285½ in.....	286 in.....	286½ in.....	287 in.....	287½ in.....	288 in.....	288½ in.....	289 in.....	289½ in.....	290 in.....	290½ in.....	291 in.....	291½ in.....	292 in.....	292½ in.....	293 in.....	293½ in.....	294 in.....	294½ in.....	295 in.....	295½ in.....	296 in.....	296½ in.....	297 in.....	297½ in.....	298 in.....	298½ in.....	299 in.....	299½ in.....	300 in.....	300½ in.....	301 in.....	301½ in.....	302 in.....	302½ in.....	303 in.....	303½ in.....	304 in.....	304½ in.....	305 in.....	305½ in.....	306 in.....	306½ in.....	307 in.....	307½ in.....	308 in.....	308½ in.....	309 in.....	309½ in.....	310 in.....	310½ in.....	311 in.....	311½ in.....	312 in.....	312½ in.....	313 in.....	313½ in.....	314 in.....	314½ in.....	315 in.....	315½ in.....	316 in.....	316½ in.....	317 in.....	317½ in.....	318 in.....	318½ in.....	319 in.....	319½ in.....	320 in.....	320½ in.....	321 in.....	321½ in.....	322 in.....	322½ in.....	323 in.....	323½ in.....	324 in.....	324½ in.....	325 in.....	325½ in.....	326 in.....	326½ in.....	327 in.....	327½ in.....	328 in.....	328½ in.....	329 in.....	329½ in.....	330 in.....	330½ in.....	331 in.....	331½ in.....	332 in.....	332½ in.....	333 in.....	333½ in.....	334 in.....	334½ in.....	335 in.....	335½ in.....	336 in.....	336½ in.....	337 in.....	337½ in.....	338 in.....	338½ in.....	339 in.....	339½ in.....	340 in.....	340½ in.....	341 in.....	341½ in.....	342 in.....	342½ in.....	343 in.....	343½ in.....	344 in.....	344½ in.....	345 in.....	345½ in.....	346 in.....	346½ in.....	347 in.....	347½ in.....	348 in.....	348½ in.....	349 in.....	349½ in.....	350 in.....	350½ in.....	351 in.....	351½ in.....	352 in.....	352½ in.....	353 in.....	353½ in.....	354 in.....	354½ in.....	355 in.....	355½ in.....	356 in.....	356½ in.....	357 in.....	357½ in.....	358 in.....	358½ in.....	359 in.....	359½ in.....	360 in.....	360½ in.....	361 in.....	361½ in.....	362 in.....	362½ in.....	363 in.....	363½ in.....	364 in.....	364½ in.....	365 in.....	365½ in.....	366 in.....	366½ in.....	367 in.....	367½ in.....	368 in.....	368½ in.....	369 in.....	369½ in.....	370 in.....	370½ in.....	371 in.....	371½ in.....	372 in.....	372½ in.....	373 in.....	373½ in.....	374 in.....	374½ in.....	375 in.....	375½ in.....	376 in.....	376½ in.....	377 in.....	377½ in.....	378 in.....	378½ in.....	379 in.....	379½ in.....	380 in.....	380½ in.....	381 in.....	381½ in.....	382 in.....	382½ in.....	383 in.....	383½ in.....	384 in.....	384½ in.....	385 in.....	385½ in.....	386 in.....	386½ in.....	387 in.....	387½ in.....	388 in.....	388½ in.....	389 in.....	389½ in.....	390 in.....	390½ in.....	391 in.....	391½ in.....	392 in.....	392½ in.....	393 in.....	393½ in.....	394 in.....	394½ in.....	395 in.....	395½ in.....	396 in.....	396½ in.....	397 in.....	397½ in.....	398 in.....	398½ in.....	399 in.....	399½ in.....	400 in.....	400½ in.....	401 in.....	401½ in.....	402 in.....	402½ in.....	403 in.....	403½ in.....	404 in.....	404½ in.....	405 in.....	405½ in.....	406 in.....	406½ in.....	407 in.....	407½ in.....	408 in.....	408½ in.....	409 in.....	409½ in.....	410 in.....	410½ in.....	411 in.....	411½ in.....	412 in.....	412½ in.....	413 in.....	413½ in.....	414 in.....	414½ in.....	415 in.....	415½ in.....	416 in.....	416½ in.....	417 in.....	417½ in.....	418 in.....	418½ in.....	419 in.....	419½ in.....	420 in.....	420½ in.....	421 in.....	421½ in.....	422 in.....	422½ in.....	423 in.....	423½ in.....	424 in.....	424½ in.....	425 in.....	425½ in.....	426 in.....	426½ in.....	427 in.....	427½ in.....	428 in.....	428½ in.....	429 in.....	429½ in.....	430 in.....	430½ in.....	431 in.....	431½ in.....	432 in.....	432½ in.....	433 in.....	433½ in.....	434 in.....	434½ in.....	435 in.....	435½ in.....	436 in.....	436½ in.....	437 in.....	437½ in.....	438 in.....	438½ in.....	439 in.....	439½ in.....	440 in.....	440½ in.....	441 in.....	441½ in.....	442 in.....	442½ in.....	443 in.....	443½ in.....	444 in.....	444½ in.....	445 in.....	445½ in.....	446 in.....	446½ in.....	447 in.....	447½ in.....	448 in.....	448½ in.....	449 in.....	449½ in.....	450 in.....	450½ in.....	451 in.....	451½ in.....	452 in.....	452½ in.....	453 in.....	453½ in.....	454 in.....	454½ in.....	455 in.....	455½ in.....	456 in.....	456½ in.....	457 in.....	457½ in.....	458 in.....	458½ in.....	459 in.....	459½ in.....	460 in.....	460½ in.....	461 in.....	461½ in.....	462 in.....	462½ in.....	463 in.....	463½ in.....	464 in.....	464½ in.....	465 in.....	465½ in.....	466 in.....	466½ in.....	467 in.....	467½ in.....	468 in.....	468½ in.....	469 in.....	469½ in.....	470 in.....	470½ in.....	471 in.....	471½ in.....	472 in.....	472½ in.....	473 in.....	473½ in.....	474 in.....	474½ in.....	475 in.....	475½ in.....	476 in.....	476½ in.....	477 in.....	477½ in.....	478 in.....	478½ in.....	479 in.....	479½ in.....	480 in.....	480½ in.....	481 in.....	481½ in.....	482 in.....	482½ in.....	483 in.....	483½ in.....	484 in.....	484½ in.....	485 in.....	485½ in.....	486 in.....	486½ in.....	487 in.....	487½ in.....	488 in.....	488½ in.....	489 in.....	489½ in.....	490 in.....	490½ in.....	491 in.....	491½ in.....	492 in.....	492½ in.....	493 in.....	493½ in.....	494 in.....	494½ in.....	495 in.....	495½ in.....	496 in.....	496½ in.....	497 in.....	497½ in.....	498 in.....	498½ in.....	499 in.....	499½ in.....	500 in.....	500½ in.....	501 in.....	501½ in.....	502 in.....	502½ in.....	503 in.....	503½ in.....	504 in.....	504½ in.....	505 in.....	505½ in.....	506 in.....	506½ in.....	507 in.....	507½ in.....	508 in.....	508½ in.....	509 in.....	509½ in.....	510 in.....	510½ in.....	511 in.....	511½ in.....	512 in.....	512½ in.....	513 in.....	513½ in.....	514 in.....	514½ in.....	515 in.....	515½ in.....	516 in.....	516½ in.....	517 in.....	517½ in.....	518 in.....	518½ in.....	519 in.....	519½ in.....	520 in.....	520½ in.....	521 in.....	521½ in.....	522 in.....	522½ in.....	523 in.....	523½ in.....	524 in.....	524½ in.....	525 in.....	525½ in.....	526 in.....	526½ in.....	527 in.....	527½ in.....	528 in.....	528½ in.....	529 in.....	529½ in.....	530 in.....	530½ in.....	531 in.....	531½ in.....	532 in.....	532½ in.....	533 in.....	533½ in.....	534 in.....	534½ in.....	535 in.....	535½ in.....	536 in.....	536½ in.....	537 in.....	537½ in.....	538 in.....	538½ in.....	539 in.....	539½ in.....	540 in.....	540½ in.....	541 in.....	541½ in.....	542 in.....	542½ in.....	543 in.....	543½ in.....	544 in.....	544½ in.....	545 in.....	545½ in.....	546 in.....	546½ in.....	547 in.....	547½ in.....	548 in.....	548½ in.....	549 in.....	549½ in.....	550 in.....	550½ in.....	551 in.....	551½ in.....	552 in.....	552½ in.....	553 in.....	553½ in.....	554 in.....	554½ in.....	555 in.....	555½ in.....	556 in.....	556½ in.....	557 in.....	557½ in.....	558 in.....	558½ in.....	559 in.....	559½ in.....	560 in.....	560½ in.....	561 in.....	561½ in.....	562 in.....	562½ in.....	563 in.....	563½ in.....	564 in.....	564½ in.....	565 in.....	565½ in.....	566 in.....	566½ in.....	567 in.....	567½ in.....	568 in.....	568½ in.....	569 in.....	569½ in.....	570 in.....	570½ in.....	571 in.....	571½ in.....	572 in.....	572½ in.....	573 in.....	573½ in.....	574 in.....	574½ in.....	575 in.....	575½ in.....	576 in.....	576½ in.....	577 in.....	577½ in.....	578 in.....	578½ in.....	579 in.....	579½ in.....	580 in.....	580½ in.....	581 in.....	581½ in.....	582 in.....	582½ in.....	583 in.....	583½ in.....	584 in.....	584½ in.....	585 in.....	585½ in.....	586 in.....	586½ in.....	587 in.....	587½ in.....	588 in.....	588½ in.....	589 in.....	589½ in.....	590 in.....	590½ in.....	591 in.....	591½ in.....	592 in.....	592½ in.....	593 in.....	593½ in.....	594 in.....	594½ in.....	595 in.....	595½ in.....	596 in.....	596½ in.....	597 in.....	597½ in.....	598 in.....	598½ in.....	599 in.....	599½ in.....	600 in.....	600½ in.....
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W H E A L C R E L A K E.

At a GENERAL MEETING of the adventurers, held at the mine, on TUESDAY, the 16th October, 1867.—

T. CURRIE GREGORY, C.E., F.G.S., in the chair.

The notice convening the meeting was read. The minutes of the last meeting having been read—

Resolved,—That the proceedings of the last meeting be confirmed. The accounts from March to July, 1867, both included, having been presented, with the merchants' bills and vouchers—

Resolved,—That they be passed and allowed, subject to the certificate of the auditor of the company.

The agents' report having been read—

Resolved,—That it is satisfactory, that it be printed, and a copy sent to each shareholder, with the proceedings of the meeting.

Resolved,—That the adventurers' contribution towards the fund for the widow of Wm. Penhall, the late pitman, be £10.

Resolved,—That Messrs. Richard Davey, M.P., W. Horton Davey, John Haye, Robert Kerr, John Boag, James Wetherpoon, James Whyte, G. Stewart Anderson, and T. Currie Gregory, be elected a committee of management; and that the thanks of this meeting be given to them for their services during the last five months.

Resolved,—That the thanks of the meeting be given to the officers of the company for the energy displayed in working the mine during the past five months. T. CURRIE GREGORY, Chairman.

Resolved,—A vote of thanks to the Chairman for his past services, and for conduct in the chair. MOSES BAWDEN, Purser.

STATEMENT OF ACCOUNTS FOR FIVE MONTHS, TO THE END OF JULY, 1867.

April 12—To balance against the adventurers	£3749 14 5
March—Labour costs	£282 11 7
Merchants', and dues	152 19 2 = £435 10 9
April—Labour costs	231 15 7
Merchants', and dues	86 10 3 = 318 5 10
May—Labour costs	293 2 10
Merchants', and dues	55 19 4 = 349 2 2
June—Labour costs	288 5 1
Merchants', and dues	145 17 4 = 434 2 5
July—Labour costs	348 18 0
Merchants', and dues	120 19 7 = 469 17 7 = 2006 18 9
Discounts allowed on call	90 3 3
Ditto for cash payments on ores	6 2 11
Interest on commission	94 10 9
Williams's and Matthews's dishonoured bills	324 0 5
Total	£6271 10 5

May 23.—Freeman and Co., copper ore, £150 3 6

Copper Miners' Co., copper ore, 167 19c. 2q., at £4 18s. 6d., 81 13 7

P. Grenfell and Sons, copper ore, 167 19c. 2q., at £4 18s. 6d., 81 13 7 = £313 10 8

July 18.—P. Grenfell and Sons, copper ore, 605 13c. 2q., at £3 18s. 6d., 222 17 3

P. Grenfell and Sons, copper ore, 517 7c. 2q., at £4 7s. 6d., 224 13 9

Sims, Williams, and Co., copper ore, 421 1c. 0q., at £3 17s. 8d., 161 17 8 = 609 8 8

Aug. 26.—A. C. Hadland and Co., copper ore, 13c. 13c. 1q., at £1 8s., 18 14 10

Sept. 19.—A. C. Hadland and Co., copper ore, 69c. 13c. 2q., at £4 18s. 6d., 283 15 10

A. C. Hadland and Co., copper ore, 53c. 16c. 2q., at £3 18s. 6d., 197 13 3

A. C. Hadland and Co., copper ore, 44c. 6c. 0q., at £6 0s. 6d., 266 15 5

A. C. Hadland and Co., copper ore, 39c. 16c. 2q., at £3 18s. 6d., 146 4 3 = 849 9 9

Sept. 25.—John Williams, copper ore, 6 2c. 0q., at £1 9s., 87 2 9 = 1923 6 8

May 24.—M. Intosh and Victor, mundle, 25c. 0c. 0q., at 19s., £23 15 0

M. Intosh and Victor, mundle, 25c. 0c. 0q., at 18s., 22 10 0 = 46 5 0

June 13.—James Stephens, mundle, 40c., at £1, 40 0 0

June 14.—Vivian and Sons, mundle, 100c., at £1, 100 0 0

July 22.—M. Intosh and Victor, mundle, 10c., at 18s., 9 0 0

Aug. 9.—W. and J. Rosser, mundle, 40c., at £1, 40 0 0

Aug. 26.—A. C. Hadland and Co., mundle, 22c. 4c. 3q., at £1, 22 4 6

Aug. 31.—W. and J. Rosser, mundle, 91c. 10c., at £1, 91 9 6

Sept. 4.—John Williams, mundle, 94c. 6c., at £1 5s., 117 17 1

Sept. 26.—Thomas Grenfell, heap of halva, 800 0 0

Sept. 28.—Joseph Jennings, ditto, 150c., at 15s., 112 10 0

Oct. 2.—Joseph Jennings, mundle, 80c., at £1, 80 0 0 = 1350 1 1

South Devon Railway Company water supply, 35 0 0

Discounts from merchants, 8 16 0

Calls received, 2617 10 3

Balance, 136 16 5

Total, £6271 10 5

CASH STATEMENT.

Merchants', and dues unpaid, £657 11 2

Due to bankers, 1473 5 9

Total, £2130 16 11

Receivable for ores and mundle sold, £1982 10 9

Carriage of ores, 11 9 9

Balance, 136 16 5

Total, £2130 16 11

MEMORANDUM.

Balance against the adventurers, £136 16 5

August cost, including merchants', and dues, 521 7 2

Balance in favour of adventurers, 1730 5 6

Total, £2388 5 6

Copper ore unsold (estimated), £850 0 0

Mundle unsold (estimated), 650 0 0

Spare materials (estimated), 350 0 0

South Devon Railway Company, compensation due, 318 15 0

Arrears of call, 219 10 6

Total, £2388 5 6

REPORTS.

Tavistock, Oct. 15, 1867.—The improved financial position of the company can be seen from the statement of accounts for while at last meeting the liabilities exceeded the assets by £1730 13s. 8d., at this meeting the assets exceeded the liabilities by £1730 13s. 8d. The cost which have averaged during the last five months £400 per month, have also covered the improvement and extension of floors and laying of tramways, and all bills and dues have been charged up.

The mine is well ventilated and cleared, tramways laid in each level, and is in first-class working order. The shaft is sunk to the 116, and six levels to the 86 are being driven in ground in easy of exploration. The drawing and pumping machinery is ample for all probable requirements. The ore ground discovered is far in excess of that being taken away. It may be seen from the agents' report, that the total cost per fathom is £33 11s., while the value of the ends and stopes is £103 per fathom, not including the stopes in the 40 (at present in reserve), worth £25 per fathom. In fact the progress of the mine and discoveries made during the last five months have more than met our expectations.

To the Adventurers in Wheal Creake.

Creake, Oct. 15, 1867.—The 74 fm. level, west of Davey's shaft, is set to drive by four men, at £2 15s. per fathom; the lode for the last 7 fms. has varied in size from 2 to 3 ft. wide, and in value from £5 to £6 per fathom. In the end the lode is cut off by a slide, and we are driving with all speed to reach it on the western side; the strata are good, and will, we believe, produce copper ore when the lode is intersected. The 62 is set to drive by four men, at £5 5s. per fm.; the lode is 3 ft. wide, worth £10 per fathom. No. 1 stopes, in back of this level, is set to four men, at £1 17s. 6d. per fathom, worth £2 per fathom. No. 2 stopes is set to four men, at £1 15s. per fathom, worth £2 per fathom. The 20 stopes is set to drive by four men, at £2 15s. per fathom; the lode in this end has been disordered by a slide, but immediately to the west of it is from 1½ to 2 ft. wide, composed of strong mundle and copper ore, worth from £5 to £6 per fathom. The mine in the bottom of this level is communicated with the 62, which gives good ventilation. No. 1 stopes, in back of this level, is set to four men, at £1 17s. 6d. per fathom; lode worth £8 per fathom. No. 2 stopes is set to four men, at £1 15s. per fathom; lode worth £9 per fathom. The 40 west is set to drive by two men, at £2 15s. per fathom; the lode in the end is about 1½ foot wide, composed of strong mundle and spar; the ground here is now firm, and good for the production of copper ore, therefore we expect an early improvement, and are of opinion that there is more lode standing to the north, and have set a cross-cut to drive in that direction at £2 per fathom. No. 1 stopes, in back of this level, is set to four men, at £1 15s. per fathom, worth from £12 to £14 per fathom. In No. 2 stopes the lode is worth from £25 to £40 per fathom. No. 3 stopes is set to drive at £1 15s. per fathom; lode worth £5 per fathom. The 28 west is set to drive at £2 per fathom; lode worth £12 per fathom. The rise in back of this level is set to four men, at £1 10s. per fathom, and the lode is worth £15 per fathom. The stopes in back of this level is set at £1 16s. per fathom; lode worth £6 per fathom. Looking at the discoveries made in the 28, 40, 50, 62, and 74 fm. levels, we have commenced driving the 86 fm. level west, at £2 5s. per fathom. During the past four months we have cleared and secured the 74 fm. level about 50 fms., cut new tip at the 40, and nearly laid the greater part of the tramroad at this level. At surface we have taken up and new laid the incline tramroad from Davey's floors to the Bedford crusher and to the Tavistock Railway, for the more rapid delivery of ores; we have also built new tramroad from Davey's shaft to the dressing-floors, put in classifying screens and sheds over the dressing pare, &c., the cost of which has been from £250 to £300.

To Mr. M. Bawden.

WILLIAM SKEWIS, WILLIAM HOOVER.

ROBERT LIBBY AND SON

MINE AND SHAREDEALERS, &c., CAMBORNE, CORNWALL.

THE MINING SHARE LIST.

BRITISH DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Total divs.	Per share.	Last paid.
1500	Alderley Edge, c, Cheshire	10 0 0	—	—	8 17 8	0 5 0	July 1867
200	Botalack, t, c, St. Just	91 5 0	—	—	488 15 0	0 5 0	May 1866
4000	Brookwood, t	1 11 0	—	—	0 5 0	0 2 6	Sept. 1866
1000	Broudford, t, Cardigan	12 0 0	16½	—	8 7 0	0 6 0	Aug. 1867
6400	Cashwell, t, Cumberland	2 10 0	—	—	0 1 0	0 1 0	Aug. 1866
916	Cargill, s, t, Newlyn	15 8 7	12	—	13 15 0	1 0 0	Feb. 1866
509	Creebrawse and Penkevil, t	—	—	—	1 0 0	1 0 0	Oct. 1867
867	Cwm Erfin, t, Cardigan	7 10 0	—	—	24 18 0	1 0 0	Oct. 1867
128	Cwm-y-Safn, t, Cardigan	60 0 0	—	—	379 10 0	3 0 0	April 1867
280	Derwent Mines, s, t, Durham	300 0 0	—	—	174 10 0	5 0 0	June 1867
1024	Devon Gl. Consols, c, Tavistock	1 0 0	430	430 430	1074 0 0	7 0 0	Sept. 1867
656	Ding Dong, t, Guilford	49 14 6	20	—	0 10 0	0 10 0	Sept. 1867
328	Dolcoath, c, t, Camborne	128 17 6	—	—	834 10 0	2 0 0	Oct. 1867
6144	East Cardon, c, St. Cleer	2 14 6	6½	6 6½	14 11 0	0 2 0	July 1867
300	East Darren, t, Cardigan	32 0 0	—	—	148 10 0	2 0 0	Oct. 1867
128	East Pool, t, c, Pool, Illogan	24 5 0	—	—	412 10 0	5 0 0	Sept. 1867
1906	East Wheal Lovell, t, Wendron	3 9 0	8½	8½ 8½	8 1 6	0 6 8	Aug. 1867
2800	Foxdale, t, Isle of Man	25 0 0	—	—	71 0 0	0 10 0	Sept. 1867
5000	Frank Mills, t, Christow	3 18 6	—	—	5 5 0	0 5 0	Feb. 1866
1800	Great Laxey, t, Isle of Man	4 0 0	18½	17½ 18½	5 5 0	0 10 0	Sept. 1867
2905	Great Wheal Vor, t, c, Helston	40 0 0	18	17 18	12 0 6	0 7 0	Jan. 1867
1024	Herodsfoot, t, near Liskeard	8 10 0	37	—	42 0 0	1 10 0	June 1867
6000	Hingston Down, c, Calstock	5 10 6	—	—	0 10 0	0 5 0	April 1866
400	Lisburne, t, Cardigan	18 15 0	—	—	492 10 0	3 0 0	May 1867
3000	Maes-y-Safn, t, Flint	20 0 0	—	—	2 0 0	1 0 0	Sept. 1867
9000	Marke Valley, c, Cardon	4 10 6	6½	6½ 6½	4 10 0	0 4 0	Oct. 1867
3000	Minera Boundary, t, Wrexham	1 0 0	—	—	0 13 0	0 3 0	Mar. 1866
1800	Miners' Mining Co., Wrexham	28 17 6	—	—	218 10 0	6 0 0	Aug. 1867
20000	Mining Co. of Ireland, c, t, c, t	7 0 0	—	17½	0 6 0	0 2 0	Jan. 1867
40000	Mynydd Iron Ore	3 5 0	—	—	0 6 0	0 2 0	Mar. 1866
200	Parry Mines, c, Anglesey	50 0 0	—	—	157 10 0	5 0 0	Jan. 1866
12800	Prince of Wales, t, Calstock	0 12 6	1½	528 548	0 2 6	0 2 6	Aug. 1867
6000	Prosper United, t, c, St. Hilary	8 14 0	—	—	0 5 0	0 5 0	Feb. 1867
1120	Providence, t, Uny Lelant	10 6 7	29½	28 29	83 7 0	0 10 0	Aug. 1867
512	South Cardon, t, Cardigan	1 5 0	410	—	562 10 0	6 0 0	July 1867
6000	South Darren, t, Cardigan	3 0 0	—	—	0 7 1	0 5 0	Oct. 1867
406	So. Wh. Frances, c, Illog	18 18 9	38	33 35	37 13 6	1 0 0	Sept. 1867
508	Summer Hill, t, Mold	3 13 6	—	—	1 0 0	0 5 0	Oct. 1867
6000	Tincroft, c, t, Pool, Illogan	9 0 0	13	12½ 13½	18 16 0	0 5 0	Aug. 1867
2000	Trumpet Cons., t, Helston	11 10 0	12	11½ 12½	11 12 6	0 7 0	Aug. 1867
3000	W. Chiverton, t, Perranzabuloe	10 0 0	65	62½ 65	21 7 6	2 0 0	Aug. 1867
400	W. Wheal Seton, c, Camborne	47 10 0	155	160 170	480 10 0	4 0 0	Oct. 1867
512	Wheal Basset, t, Illog	5 2 6	85	82½ 87½	637 0 0	2 0 0	Oct. 1867
1024	Wheal Basset, t, Illog	20 0 0	—	—	330 10 0	0 10 0	Nov. 1866
4295	Wheal Basset, t, Illog	5 4 6	—	—	3 10 0	2 0 0	Feb. 1867
1024	Wheal Mary Ann, t, Menheniot	8 0 0	17½	16½ 17½	62 10 0	0 15 0	Sept. 1867
2090	Wheal Rose, c, Scorrier	—	—	—	1 0 0	0 10 0	Feb. 1866
396	Wheal Seton, t, c, Camborne	58 10 0	107½	102½ 107½	249 15 0	3 0 0	Oct. 1867
1040	Wheal Trelawny, s, t, Liskeard	5 17 0	—	—	54 14 0	0 4 0	June 1867
3000	Whitwell Lead, Clitheroe	0 5 0	—	—	0 10 0	0 10 0	July 1867
17000	Wicklow, c, t, Wicklow	2 10 0	19½	19	48 10 0	0 15 0	Oct. 1867

FOREIGN DIVIDEND MINES.

35000	Alamillos, t, Spain	2 0 0.	1½.	1 1½	0 1 0.	0 1 0.	Oct. 1867
20000	Australian, c, South Australia	7 7 6.	—	—	0 1 0.	0 1 0.	Aug. 1867
15000	Cape Copper Mining	0 0 0.	7	6 7	2 12 6.	0 10 0.	April 1866
70000	Don Pedro North del Rey	0 14 0.	2½.	3½ 3	0 7 0.	0 3 6.	Aug. 1867
25000	Fortuna, t, Spain	2 0 0.	—	13½ 2½	1 7 4.	0 2 0.	Oct. 1867
20000	Gen. Mining Assoc., Nova Scotia	20 0 0.	17	13 15	23 10 0.	0 15 0.	June 1867
10000	Gonnesa, t, [5000 £5 pd., 5000 £4 pd.]	—	—	—	10 percent.	—	July 1867
15000	Linares, t, Spain	3 0 0.	—	—	11 8 4.	0 2 0.	Oct. 1867
50000	Panuelillo, c, Chili	3 0 0.	3	2 3	10 percent.	—	Yearly
6000	Peel River Land and Mineral	—	—	—	—	—	—
30000	Pestarella, t, Italy	2 0 0.	2½.	2½ 2½	0 2 6.	0 2 6.	Mar. 1867
10000	Ponteband, t, Portugal	20 0 0.	—	—	14 3 0.	0 11 0.	June 1866
100000	Port Phillip, t, Clunet	1 0 0.	1½.	1 1½	0 17 6.	0 10 0.	Aug. 1867
120000	Scottish Australian Min. Co.	1 0 0.	1½.	1½ 1½	7½ percent.	—	Mar. 1867
11000	St. John del Rey, Brazil	15 0 0.	60	58 60	77 5 0.	4 10 0.	June 1867
50000	Victoria (London) [25000 £1 pd., 25000 12s. 6d. pd.]	—	—	—	0 9 0.	0 10 0.	Jan. 1866
40000	West Canada Mining Co.	1 0 0.	—	—	0 19 6.	0 2 6.	May 1866

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Last Call.
100000	Anglo-Brazilian, g st	0 10 ..	7½	¾ ¾	..Nov. 1866
12500	Anglo-Italian, g st	0 5 0 ..	—	—	..May 1867
40000	Britanny Silver-Lead Mines, France* [15750 lss. pd.]	5 0 0 ..	—	36 38	..
2464	Burra Burra, c, South Australia†	1 12 0 ..	—	—	..Aug. 1866
25000	Capula, s, Mexico*†	4 0 0 ..	4½	3¾ 4	..June 1867
30000	Chontales, g, s, Nicaragua*	43 0 0 ..	—	—	..May 1867
12000	Cobre Copper Company, c, Cuba†	16 0 0 ..	—	—	..
10000	Copapo Mining Company, Chile†	150 470 pd.] ..	—	—	..April 1866
1000	Copapo Smelting, Chile	5 0 0 ..	—	—	..Nov. 1866
300	Copper Mines, c, of South Australia	5 0 0 ..	—	—	..Nov. 1866
15000	El Chico Silver Mining and Reduction Company*	5 0 0 ..	—	—	..Fully pd.
8000	English and Canadian Mining Company*	2 0 0 ..	—	—	..Fully pd.
40000	Fortune Copper Mining Co. of Western Australia	1 15 0 ..	15s.	13s. 15s.	..June 1867
50000	Frontino and Bolivia, g, New Granada*	5 0 0 ..	—	—	..Fully pd.
10000	Great Barrier Land, Mining, &c., New Zealand	1 11 6 ..	—	—	..Sept. 1863
80000	Great Northern, c, South Australia†	3 0 0 ..	—	—	..
6000	Kapunda Mining Co., Australia†	0 12 6 ..	—	—	..Jan. 1867
7927	Meitanian (Portugal), t	5 0 0 ..	—	—	..Aug. 1865
83090	Mariquita, g, Brazil	3 10 0 ..	—	—	..
12500	Nerbudda Coal and Iron*†	3 10 0 ..	—	—	..
51000	New Quebrada, c, Venezuela*†	1 15 0 ..	—	—	..Sept. 1865
50000	Nova Scotia Land and Gold*	2 0 0 ..	—	—	..Fully pd.
15000	Otea, c, New Zealand*	0 10 ..	—	—	..May 1866
10178	Rhenish Consolidated, f [5000 £s pd., 4178 £2 10s. pd.]	4 0 0 ..	7½	¾ ¾	..June 1867
100000	Rossa Grande, g, Brazil*	5 0 0 ..	—	—	..Sept. 1866
15000	San Pedro del Monte, Mexico	0 2 6 ..	—	—	..Sept. 1867
10000	San Roque, t, Spain	2 0 0 ..	2½	—	..
100000	Taquari-l, g, Brazil*	28 5 0 ..	2½	1¾ 2¼	..
6000	Terresen, s-l, Isle of Sardinia	6 0 0 ..	—	—	..
43174	United Mexican, s, Mexico†	7 0 0 ..	—	—	..Aug. 1867
10000	Vancouver, c††	1 0 0 ..	—	—	..Fully pd.
4000	Val Sassam, c, t, Italy*	5 0 0 ..	—	—	..Fully pd.
20000	Victor Emanuel, c, Italy*	1 0 0 ..	—	—	..Fully pd.
80000	Washoe, g, Nevada	3 0 0 ..	—	—	..Fully pd.
75000	Worthing, c, South Australia*	3 0 0 ..	1	—	..Fully pd.
45000	Yorke Peninsula, c, South Australia	3 0 0 ..	1	—	..Fully pd.